Narcotic Drug Addiction Problems

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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Narcotic Drug Addiction Problems

Proceedings of the Symposium on the History of Narcotic Drug Addiction Problems March 27 and 28, 1958, Bethesda, Maryland

Edited by

ROBERT B. LIVINGSTON, M.D.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE OF MENTAL HEALTH

Bethesda, Maryland

THIS PUBLICATION IS DEDICATED
TO THE MEMORY OF
KENNETH WILLIAM CHAPMAN
1911–1959

Public Health Service Publication No. 1050

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PREFACE

Narcotic drug addiction is widely regarded as a grave national and international problem. No other issue affecting individual or public health arouses equal unanimity and equal zeal for reform and revenge: not radioactive fallout or pollution of rivers, not smog or smoking tobacco, not automobile or airplane accidents, not juvenile delinquency or alcoholism. Moreover, in the field of narcotic drug addiction and traffic, the United States is able to reach speedy and substantial international agreement with other governments; everyone seems to be strictly against narcotic drug addiction. There is no comparable consistency of outlook on any other subject relating to health, behavior or social responsibility.

With such concerted and universal public and official aversion to narcotic drug addiction, how can the problem continue to exist? Would it be feasible to control narcotic drug traffic at the source of the opium poppy? Could we get along entirely without opium and opium derivatives? Do we now have, or could we develop, a nonaddicting, pain-relieving compound appropriate for substitution in place of the present addicting drugs? Can society be safeguarded against the potential addictiveness of newly synthesized drugs?

How well (and how poorly) does the popular public image of the narcotic drug addict match the real addict? Is the addict identifiably different prior to his initial experiences with addicting drugs? Do narcotic drugs transform a normal individual's character, erode his otherwise competent powers for self-control, take away his freedom and independence and enslave his will? What effects have narcotic drugs on sexual drive? On sexual prowess? On bravery? On tendencies to commit crimes of violence?

What are the internal effects of addicting drugs? Are pain relief and addictiveness linked together in drug action? Are the effects of addicting drugs equivalent from one person to another? What psychological and social forces combine with access to the drug in accounting for the initiation and relapse of individual addicts?

Does our society differentiate adequately between the nonaddicted narcotic drug *peddler* and the *addict?* How does our society behave, through legislation and public attitudes affecting the functions of medicine, law, police enforcement and punishment, in relation to the addict? What commonplace assumptions concerning free will, individual responsibility, deterrence and social retribution, underlie our social laws, attitudes, and actions? Does drug addiction itself cast any doubt on the validity of these underlying assumptions? Are there alternative social instrumentalities which

might more effectively reduce the amount of human anguish stemming from drug addiction? Do other national groups face similar problems? Do they approach these problems in the same way? Do they do as well (or as badly) as we do?

These are some of the questions nonexperts would like to have answered by experts in the field of narcotic drug addiction. These are some of the questions Dr. Isbell raised when he suggested that the National Institute of Mental Health sponsor a symposium to which would be invited experts from all of the several professions and official agencies nationally and internationally concerned with narcotic drug addiction problems. This would provide the first occasion in all time for a full assessment of these problems by a group of professionals who are qualified to sort out and to discuss frankly with each other their differences in interpretation and point of view.

There is no sharp dividing line in conceptual development between past, present, and future. Men still living have witnessed the whole period of the scientific approach to medical, psychological, and sociological aspects of the problem. Others have been professionally active during the entire history of legislative and police enforcement efforts in this field. Others have seen the whole sequence of social problems arising from addiction from the vantage point of the courtroom, and the judicial bench. Still others have observed the addict in prison, and have observed him returning to a more open society, and following his exposure to our presently inadequate regimens for rehabilitation. Yet there are many individuals even among such experienced professionals who have never had an opportunity to obtain an overview regarding these problems as a whole. A meeting to consider narcotic drug addiction problems in historical perspective would provide everyone a better point of departure for the important social tasks ahead.

A planning committee, under the chairmanship of Dr. Kenneth W. Chapman, drew up a prospective list of distinguished and highly qualified speakers, and discussed with them specific and general topics and gaps of knowledge which needed to be scrutinized. Mr. Harry J. Anslinger, Commissioner of Narcotics, was helpful during the planning stages, but unfortunately was unable to attend the conference itself. All speakers accepted with alacrity. The distinguished moderators enthusiastically accepted their responsibilities, adding professional luster and insight as well as intellectual discipline to the individual sessions.

Most of the arrangements and much of the labor of the symposium fell on the willing shoulders of Dr. Chapman. Through his career in the Public Health Service, he had acquired invaluable experience taking care of narcotic addicts, operating a hospital for narcotic addiction, planning new systems for rehabilitation and followup of narcotic addicts released from hospitals and prisons, analyzing the interface between law and medicine relating to narcotic drug addiction, and serving on important national and international committees where he performed yeoman service by writing many of the final documents concerned with the present state of knowledge,

proposals for action, and designs for research which might answer heretofore unapproachable problems. Dr. Chapman's greatest asset in arranging the symposium proved to be the friendliness and high regard with which he was personally received by men involved in all aspects of narcotic drug addiction problems, even those whose point of view seemed to place Dr. Chapman's efforts at cross purposes to their own. It was to a large extent due to Dr. Chapman's personal good will, and to the good will gained during many years by the Public Health Service through the painstaking efforts and devotion of many dedicated officers, that an overwhelmingly enthusiastic response to the committee's invitation was insured.

In some respects the committee was racing against time—to hold the meeting before any more of the oldtimers who had extensive and indispensable personal knowledge of addiction problems would be unable to participate.

Dr. Lyndon F. Small, who dedicated his life to trying to discover a non-addicting analgesic, died of cancer only a few weeks before the meeting. At the meeting itself, Dr. Chapman presented a key paper and took vigorous part in the discussion. A few months later, however, quite unexpectedly, Dr. Chapman suddenly felt unwell and, within a few hours, died of a heart attack. It was as though the committee's hurry had been to assure Dr. Chapman's own participation. The publication of the proceedings represents a testament to Dr. Chapman's skill and devotion, and is dedicated to his memory.

The meeting was successful beyond expectation. In the great tradition of truth seekers, no conceptual or intellectual impediments were assumed. Each participant was enjoined to contribute in his best way to an overall comprehension of the problems that transcend any single professional calling. Complete and partial answers to many questions were revealed. Yet, obviously, not all of the answers are as yet revealed to anyone. There remain great realms of ignorance. In comparison with the dimensions of the totality of narcotic drug addiction problems, we are still near the beginning of the path to rational understanding. This much could be foreseen. But it was not obvious prior to the meeting that so many potentially soluble problems would appear for attention. It was not obvious that the costs of discovering new insights and new methods of cure and control are small when compared to the costs of continuing dependence on our present limited level of understanding; that cross-disciplinary endeavors illuminated in these papers and discussion would be so mutually reinforcing. In effect, this symposium portrays a shared, purposeful intellectual adventure. I believe everyone left with a sense of growth and maturation of personal insight, and with an enlarged respect for those who have in the past needed to fix their attention on specialized aspects of narcotic drug addiction problems.

The symposium proceedings were edited, sent to each of the participants for corrections and amendments, reedited and sent once more to each of the

participants for final review prior to publication. Participants were asked to express any afterthoughts or important revisions in the form of footnotes. Although some textual details are now anachronistic because of such historical events as the admission of Alaska and Hawaii to statehood, nothing essential is out of date that concerns narcotic drug addiction problems.

ROBERT B. LIVINGSTON, M.D.

MAY 1963.
Bethesda, Maryland.

BIOGRAPHICAL SKETCHES OF INVITED PARTICIPANTS

LEO H. BARTEMEIER, *psychiatrist,* a graduate of Georgetown Medical College, with residency training at the Henry Ford Hospital, research and teaching at the Johns Hopkins Hospital, Wayne University Medical School, and Georgetown University Medical School, is medical director of the Seton Psychiatric Institute. Dr. Bartemeier has served as chairman of the Committee on Mental Health of the American Medical Association and chairman of the board of trustees of the Joint Commission on Mental Illness and Health.

JAMES V. BENNETT, *Director,* U.S. Bureau of Prisons, a graduate of Brown University with a law degree from George Washington University, served with the U.S. Bureau of Efficiency, the Personnel Classification Board, and was a member of the Roberts Commission to study the Panamanian Government before becoming Assistant Director and later Director of the Bureau of Prisons. In 1945 he organized civil prisons for the American Military Government in Germany. Mr. Bennett has received the Army Exceptional Civilian Service Medal, the Navy Distinguished Public Service Award, the Selective Service Medal, and the President's Award for Distinguished Federal Civilian Service, in addition to honorary degrees in law, public administration, and the humanities.

KENNETH W. CHAPMAN, *Medical Director* (Colonel), U.S. Public Health Service, a graduate of the University of Massachusetts and Yale University School of Medicine, Dr. Chapman has served as Chief, Psychiatric Service, Clinical Director, and later Medical Officer in Charge, U.S. Public Health Service Hospital, Lexington; Chief of the Neuropsychiatric Branch of the Division of Hospitals of the U.S. Public Health Service; and consultant on drug addiction problems to State and community hospitals and health agencies as well as representative on national and international organizations concerned with drug addiction problems.

ISIDOR CHEIN, *professor of psychology,* graduated from City College, received his doctorate in psychology from Columbia University, taught at City College and New York University, was research associate on the Mayor's Committee on Unity in New York City, director of Research for the Commission on Community Interrelations, and is professor of psychology at New York University. Dr. Chein is an authority on the theory of personality, on intergroup relations and juvenile delinquency as well as drug addiction.

EDWARD J. DIMOCK, *U.S. District Judge,* Southern District of New York, graduated from Yale University and Harvard Law School; was a member of the law firm of Hawkins, Delafield & Longfellow; State reporter editing official law reports for the State of New York; Chairman, Board of Appeals, Office of Contract Settlement, Washington, D.C.; lecturer in law of municipal corporations, Yale Law School; chairman of the Joint Committee of New York City Bar Associations; representative for the U.S. District Courts on Judicial Conferences. Judge Dimock has served as a member and officer in local, State, and National bar associations and as a member of the board of editors of the Journal of the American Bar Association.

NATHAN B. EDDY, *Chief,* Section on Analgesics, Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases,* received his medical doctorate from Cornell University, taught physiology and pharmacology at McGill University and the University of Alberta, and served as research professor of pharmacology and consultant in biology at the University of Michigan before becoming Principal Pharmacologist and Medical Officer at the National Institutes of Health, U.S. Public Health Service. Dr. Eddy has served as a member of and later consultant to the Expert Committee on Drugs Liable To Produce Addiction of the World Health Organization; as Technical Adviser, U.S. delegation to the United Nations Narcotics Committee; as secretary to the Committee on Drug Addiction and Narcotics of the National Research Council; and as a member of various advisory committees on narcotic problems. Dr. Eddy is an expert on chemical structure and action, and has worked extensively on the pharmacology of analgesics and antimalarials and on the mechanisms of drug addiction.

ROBERT H. FELIX, *Assistant Surgeon General,* U.S. Public Health Service, graduated from the University of Colorado and the University of Colorado School of Medicine; took advanced training at the Johns Hopkins University School of Hygiene and Public Health and at the Washington Psychoanalytic Institute; served in the Medical Center for Federal Prisoners as Clinical Director; in the Public Health Service Hospital, Lexington, as Chief of Psychiatry; Clinical Director and Executive Officer, in the U.S. Coast Guard Academy, New London; and in the Hospital Division and Division of Mental Hygiene of the Bureau of Medical Services. Dr. Felix is presently Director of the National Institute of Mental Health. He has served as chairman of the Committee on Narcotic Addiction of the American Medical Association and on the Joint Committee on Narcotics of the American Medical Association-American Bar Association; as president of the American Psychiatric Association; as a member of the governing council and of the Committee on Professional Education of the American Public Health Association; and is presently an editor on the boards of a number

*Retired in 1960; currently consultant on narcotics, National Institutes of Health, and professional associate, National Academy of Sciences-National Research Council.

of professional journals. He has received several honorary degrees (in law and in science) as well as the Rockefeller Public Service Award.

MALACHI L. HARNEY, *Superintendent, Division of Narcotic Control, Illinois State Department of Public Safety,* graduated from the University of Minnesota, College of Agriculture, with a B.S. in education; taught chemistry and physics in high schools in Minnesota and Wisconsin for short periods, between which he saw service in the U.S. Marine Corps in World War I. In 1920 he entered the Internal Revenue Service in Minneapolis, Minn., and during the next 35 years served in various capacities as a Treasury agent in law enforcement branches of the Treasury. For 16 years he was Enforcement Assistant to H. J. Anslinger, the then U.S. Commissioner of Narcotics. Beginning with World War II he had additional and concurrent responsibility as Assistant Chief Coordinator for all the Treasury enforcement agencies. In 1952 he was appointed Assistant to the Secretary of the Treasury to serve as Chief Coordinator for Treasury law enforcement. From this position he retired at the end of 1955. In 1957, at the request of the Governor of Illinois, he became superintendent of the Illinois State Division of Narcotic Control, spent 2½ years setting up and operating that division, resigned in 1960. Mr. Harney presently serves as part-time lecturer in officers training schools of the Treasury Department. Mr. Harney has been acquainted with narcotic addiction and with illicit narcotic traffic for over 40 years. During much of that time he has held important responsibilities for the enforcement of narcotic laws. He has personally known hundreds of narcotic addicts and has reviewed thousands of reports on narcotic addiction and narcotic traffic. In his administration of the Illinois narcotic laws, which among other things provide for the treatment of narcotic addicts, he has witnessed examples demonstrating the necessity for authority in such a program. Mr. Harney has written extensively for technical police journals, and is the coauthor of two books, "The Informer in Law Enforcement" and "The Narcotic Officers Notebook."

HARRIS ISBELL, *Medical Director* (Colonel), U.S. Public Health Service, completed undergraduate work at Arkansas, received his medical doctorate at Tulane University, interned at Charity Hospital, studied nutrition as a fellow at Tulane, and continued his research in nutrition at the National Institutes of Health in Maryland and Georgia. Since 1945, he has been Director of the Addiction Research Center, U.S. Public Health Service Hospital, Lexington, Ky. Dr. Isbell is a professor-lecturer at the University of Illinois College of Medicine, at the University of Cincinnati School of Medicine, and lecturer in the School of Medicine at the University of Louisville. Dr. Isbell is a member of the Committee on Narcotic Drug Addiction and a member of the World Health Organization Panel of Experts on Drugs Liable To Produce Addiction.

RUFUS KING, *lawyer,* studied at the University of Washington and Princeton University, receiving his A.B. degree at the latter, and at Stanford University Law School and Yale University Law School, receiving his

LL.B. at the latter; taught at Princeton; admitted to the bar in the District of Columbia, New York, and Maryland, and before the U.S. Supreme Court. Mr. King has served as special counsel and legislative counsel for various Senate committees, including the Committee on Organized Crime, Interstate and Foreign Commerce Committee, and the House Judiciary Committee, and has written many articles for law publications, "Model Anti-Gambling Act," "Rules for Congressional Committees," "Narcotics Bureau and the Harrison Act," "Narcotic Drug Laws," and "Control of Organized Crime." He served as chairman of the Joint American Medical Association-American Bar Association Committee on Narcotic Drugs.

LAWRENCE KOLB, *special consultant,* U.S. Public Health Service, received his medical doctorate from the University of Maryland, whereafter he entered the U.S. Public Helath Service. He was responsible for hospital quarantine and immigration duties; medical officer in charge of the Hospital for Nervous Diseases, Wisconsin; Superintendent, U.S. Hospital for Defective Delinquents, Missouri, and the Hosiptal for Drug Addicts, Lexington; and Assistant Surgeon General in charge of the Division of Mental Hygiene, forerunner of the National Institute of Mental Health. Dr. Kolb conducted research at the National Institutes of Health and during a period of service in Europe as well as during each of his assignments, characteristically. He served also as medical consultant, State Department of Correction, California, and as Medical Deputy Director, State Department of Mental Hygiene, California. Dr. Kolb devoted his active life of service to public health work in the fields of drug addiction, alcoholism, the intelligence of immigrants, old age, and mental disease.

ROBERT B. LIVINGSTON, *Director of Basic Research,* National Institute of Mental Health and National Institute of Neurological Diseases and Blindness;* received his A.B. and M.D. degrees at Stanford University; served an internship and residency in Medicine at Stanford University Hospital; spent 2 years on active duty in the U.S. Naval Reserve Medical Corps during World War II; taught at Yale University School of Medicine, Harvard Medical School, and the University of California Medical Center at Los Angeles. Dr. Livingston was a National Research Council senior fellow in neurology in Switzerland; a Wilhelm Gruber fellow in neurophysiology in Switzerland, France, and England; and served as executive assistant to the president of the National Academy of Sciences-National Research Council before joining the National Institutes of Health.

MORRIS PLOSCOWE, since 1953 has been engaged in private practice of law in New York City, received his A.B. and LL.B. from Harvard in 1925 and 1928, respectively; Faculté de Droit, Paris, 1929; served as counsel for National Commission on Law Observance, Wickersham Commission, 1930–31; Columbia Crime Survey, 1931; Massachusetts Crime Commission, 1933; New Jersey Judicial Council, 1934; Rockefeller Liquor Study Com-

*Now serving as Associate Chief for Program Development, Division of Research Facilities and Resources, National Institutes of Health.

mittee, 1935; U.S. Census Bureau, 1936; Boys Clubs of America, 1937; Senate Committee To Investigate Crime, 1950–51; was Deputy Commissioner of Investigation, New York City, 1938–39; chief clerk, Court of Special Sessions, 1940–45; and city magistrate, New York City, 1945–53. Judge Ploscowe has been a lecturer at the University of Minnesota and New York University Law Schools. He was Director, Commission on Organized Crime of the American Bar Association, 1950–52, and at the time of this symposium was director of the Narcotics Drugs Control Study, Russell Sage Foundation.

JOHN D. PORTERFIELD, *Deputy Surgeon General of the U.S. Public Health Service,** went to Notre Dame University, Rush University School of Medicine of the University of Chicago, and the Johns Hopkins University School of Hygiene and Public Health; interned at the Public Health Service Hospital in San Francisco and served the Public Health Service in a variety of assignments including service in mental health, hospital facilities, and venereal disease control programs. Dr. Porterfield took part in the early development of the research grants program of the National Institutes of Health. He served as director of the Ohio Department of Health and director of the Ohio Department of Mental Hygiene and Correction. He returned to the Public Health Service as Assistant Surgeon General for Program Planning, Development and Evaluation. Dr. Porterfield has been president of the American College of Preventive Medicine and chairman of the Executive Board of the American Public Health Association.

MAURICE H. SEEVERS, *professor and chairman of the Department of Pharmacology at the University of Michigan,* received his bachelor's degree from Washburn College, was a fellow at the University of Chicago, earned a doctorate in pharmacology at the University of Chicago and a doctorate in medicine at the Rush Medical School of the University of Chicago. Dr. Seevers taught at Loyola and the University of Wisconsin before joining the faculty of the University of Michigan. He has served as president of the Society of Pharmacologists and is an honorary member of the Society of Anesthesiologists. Dr. Seevers is a consultant to the U.S. Public Health Service and the U.S. Army, and is a member of the Committee on Drug Addiction and Narcotics and of the Committee on Anesthesiology of the National Research Council.

GLENN SONNEDECKER, *professor in the School of Pharmacy and in the History of Science Department,* University of Wisconsin, received his bachelor's degree from Ohio State, a master's and doctorate at the University of Wisconsin; has been a fellow of the American Foundation for Pharmaceutical Education; a Horlick fellow; a fellow of the Guggenheim Foundation; a Fulbright research scholar; an editor of the *Journal of the American Pharmaceutical Association;* and presently serves as professor of the history of pharmacy and executive director of the American Institute

*Now retired from the Public Health Service and currently Coordinator of Medical and Health Sciences, University of California, Berkeley, Calif.

for the History of Pharmacy at the University of Wisconsin. Dr. Sonnedecker specializes in the history of pharmacy and materia medica.

ISAAC STARR, *Hartzell Research Professor of Therapeutics* at the University of Pennsylvania, received his bachelor of science degree from Princeton University and his medical doctorate from the University of Pennsylvania. Dr. Starr interned at the Massachusetts General Hospital before beginning his teaching career at the University of Pennsylvania School of Medicine where he has also served as dean. He has had a succession of clinical as well as teaching and research responsibilities, is a consultant to the Aero-Medical Acceleration Laboratory, U.S. Naval Development Center; member of the Revision Committee, U.S. Pharmacopoeia; secretary to the Committee on Essential Drugs of the National Research Council; chairman of the Subcommittee on Pharmacology; and chairman of the Committee on Narcotics and Drug Addiction. Dr. Starr received the Lasker Award from the American Heart Association, has served as president of the Society for Clinical Investigation, and is an honorary member of the Harvey Society.

WILLIAM F. TOMPKINS, *Assistant Attorney General,* U.S. Department of Justice,* received his A.B. degree from Wesleyan University, Middletown, Conn., and his LL.B. from Rutgers University Law School. He is admitted to the bar in New Jersey, the District of Columbia, and before the U.S. Supreme Court. He served as a member of the New Jersey House of Assembly and as U.S. Attorney for New Jersey before becoming Assistant Attorney General. While a member of the New Jersey Legislature, he sponsored a resolution creating the Legislative Commission on Narcotics and served as chairman of that commission. In 1952 he sponsored a series of bills in the New Jersey Legislature relating to the problem of drug addiction. He is coauthor of "The Traffic in Narcotics" with Commissioner Harry J. Anslinger of the Federal Bureau of Narcotics.

WALTER L. TREADWAY graduated from the Barnes Medical College, received a doctor of science degree from the University of Southern California, interned at St. Louis City Hospital, and served as a resident in the State Hospital at Jacksonville, Ill., and in the Illinois Psychiatric Institute in Chicago. Dr. Treadway undertook postgraduate training at the New York Psychiatric Institute and at the Queen's Square Hospital, London, England; taught preventive medicine at Harvard University, psychiatry at the University of California and at the University of Southern California. Dr. Treadway served the U.S. Public Health Service as a Medical Officer and Chief of the Division of Mental Hygiene, which later became the National Institute of Mental Health, retiring with the rank of Assistant Surgeon General.

S. BERNARD WORTIS, *professor and chairman of the Department of Psychiatry and Neurology,* New York University, received his B.A. degree

*Currently senior partner in Lum, Biunno & Tompkins, counselors at law, Newark, N.J.

from New York University, his M.D. from Cornell, joined the teaching faculty in medicine at Cornell before returning to New York University in experimental neuropsychiatry and later psychiatry and neurology. Dr. Wortis serves as dean of the Medical School and Director, Psychiatry and Neurology, for the University Hospital Medical Center. He served as Rockefeller fellow, The Johns Hopkins University Hospital; director, Psychiatric Division of Bellevue Hospital; consultant, U.S. Public Health Service, Ellis Island; senior consultant, U.S. Veterans' Administration; consultant, Stapleton Marine Hospital, Montefiore Hospital, Polyclinic Hospital, and Welfare Hospital; member of the National Advisory Mental Health Council; president of the American Board of Psychiatry and Neurology; and president of the American Neurological Association.

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ADDRESS OF WELCOME

JOHN D. PORTERFIELD
Deputy Surgeon General
U.S. Public Health Service

On behalf of the U.S. Public Health Service, I bid you welcome to this Symposium on the History of Narcotic Drug Addiction Problems.

Dr. Felix and his committee deserve our praise and thanks for arranging this comprehensive program. By tomorrow evening they will have succeeded in encouraging us all toward synthesizing our combined wealth of profound and diversified knowledge concerning the manifold problems that emanate from narcotic drug addiction.

It is fitting that such a symposium be held, particularly in the light of increasing interest in narcotic addition problems. Numerous articles and reviews dealing with fragmentary aspects of this field have appeared in widely scattered periodicals, including a variety of stories in the daily press. There has been, however, no comprehensive résumé of knowledge relating to narcotic drug addiction for the past 30 years.

We are gathered in pursuit of a comprehensive, objective résumé of the interrelated medical, legal, and social aspects of these problems. The Public Health Service has had certain legal responsibilities since the 1920's for the treatment of narcotic addicts and for conducting research on the action of narcotic drugs. We also have had the opportunity of cooperating with the States by providing them information on our experience in the care, treatment, and rehabilitation of narcotic addicts and in other ways helping them to solve problems as they face them.

We in the Public Health Service appreciate the opportunity to share experiences of our 35 years of working with narcotic drugs and the men and women who fall victims to their devastating effects. We have learned the hard way that adverse effects of drug addiction pack plenty of power and stubbornly persist and recur. Staffs in our hospitals at Fort Worth and Lexington know far too well the frustration of seeing familiar faces of individuals, many relatively young, coming back to try and try again.

Public Health Service responsibilities relative to narcotic addiction have been many, varied, and widespread. They range from intimate familiarity with the sick and convalescing addict, through basic studies on the pharmacological and physiological characteristics of the drugs, to counseling States and cities on local management of their narcotic problems. Despite all

we in the Public Health Service now know and have done and are doing about studying and treating narcotic addiction and other manifestations of antisocial behavior that scar the contemporary social scene, we are very keenly aware of how much we do not know and what we have not yet succeeded in understanding and achieving.

Over this 35-year span, the Public Health Service has had the solace of knowing that it was never alone in facing these complicated problems. Far from being the private reserve of physicians and health workers, narcotic addiction provokes extensive legal and law enforcement complications, the latter sometimes hazardous to life itself. Addiction also poses endless challenges to the sociologists. It is the concern of all levels of government from grassroots to the United Nations. On all of these fronts, much good work has been done and much remains to be done.

There are many ways of viewing this subject. The United States has approached narcotic addiction differently at various times. Other countries have used a variety of still different approaches. There is no easy solution which evolves from our experiences to date. We cannot attack the problems of narcotic drug addiction in isolation for, if we do, we will be like the blind men describing the elephant. Accordingly, we have invited a group representative of the scope of the problem to partcipate in this symposium. Invitations have been extended to the World Health Organization, Members of Congress, other Government agencies, State and city health officers, chiefs of State police departments, State narcotic drug officers, Federal parole and probation officers, pharmaceutical companies, and professional organizations representing medicine and law. We have invited men who can speak with authority and objectivity with regard for the medical, legal, and social aspects of narcotic drug addiction. Opportunity for discussion has been planned so that all points of view may be expressed and considered. Out of this interchange of ideas as to where we stand today will crystallize a more objective and comprehensive point of departure for planning future action.

The problems of narcotic addiction are problems that seriously perturb and grieve people, too often young people on the very threshold of potentially productive adulthood. As we plumb the depths of our technical specialties during our talks here, let us concentrate on the human implications, the person of the addict and the havoc his condition wreaks upon the people he touches. There is an imperative need to make available information about (*a*) what has been done and tried, and what has succeeded or failed, here and abroad; (*b*) the principal concepts which are used by various observers to evaluate the problems of narcotic drug addiction; (*c*) the development of laboratory and clinical concepts; and (*d*) the patterns of legal and corrective experience.

I am confident that this assembly will be able to provide much insight during its deliberations. I also hope that it will clear away the myths that sometimes surround our various roles and spheres of activity. Objectivity

and detachment, as well as cooperation and understanding, are essential for success. The proceedings of this symposium will be published in order to reach the widest possible audience. By this means, too, we leave for those who follow a comprehensive chronicle of narcotic addiction problems in the United States as they developed to their status as of March 27 and 28 in this year of our Lord, 1958.

I have the happy honor of presenting now our Chairman, Dr. Robert H. Felix, Assistant Surgeon General and Director of the National Institute of Mental Health.

INTRODUCTORY REMARKS

Robert H. Felix
Director
National Institute of Mental Health
National Institutes of Health

It is by no accident that Dr. Porterfield can speak as feelingly and knowledgeably as he has spoken about the problems of narcotic addiction. Dr. Porterfield was one of that group of Service officers—a number of us are in the room today—who were on the staff at the Lexington Hospital in the early days when we were feeling our way toward a regimen of treatment and rehabilitation of these patients.

I, too, wish to welcome all of you warmly to this symposium, the first of its kind held by the Public Health Service. We are witnessing a rather unique event today. You heard Dr. Porterfield mention the fact that the Public Health Service has been interested in the problem of narcotic addiction for 35 years. The two people who preceded me in my present post and who span the entire 35 years of Public Health Service interest in narcotic addiction are with us today—Assistant Surgeon General (Retired) Dr. Walter L. Treadway, the first Chief of Mental Hygiene, the man who initiated the program of narcotics control, and his successor, Assistant Surgeon General (Retired) Dr. Lawrence Kolb. These two men, whose combined service ended in 1944, pioneered and made easy a job which we have tried to carry forward since their retirement. We hope that they are reasonably satisfied with what we have done since.

The idea of this symposium did not spring full fledged out of our heads, but rather developed as the result of a luncheon conversation last summer between two of the scientists on the National Institute of Mental Health staff. Dr. Harris Isbell, Director of the Addiction Research Center at the U.S. Public Health Service Hospital at Lexington, Ky., was having lunch with Dr. Robert B. Livingston, Director of Basic Research in the National Institute of Mental Health and the National Institute of Neurological Diseases and Blindness, here in the Clinical Center. Dr. Livingston was asking in some detail about the multifarious narcotic drug addiction problems. In every instance, it seemed necessary for Dr. Isbell to depict from a historical point of view how control, medical treatment, rehabilitation, etc., have been developed. Then it occurred to Dr. Isbell that there were others who could fill in certain aspects of this information better than he.

In fact, many persons had played official roles in one or another of the major fields implicated in the narcotic drug addiction problem.

Out of this conversation grew the idea of holding this symposium where it would be possible to gather experts from each of the complementary medical, legal, and social fields concerned. By inviting these experts to approach subjects of their competence from a historical point of view, and providing opportunity for full discussion of differences of opinion, it would be possible to approach the ideal goal of this meeting; that is, a published expression of all the facets of these problems.

The passage of time, the accumulation of scientific knowledge on various aspects of addiction, and the growing interest in sociology have provided a natural climate for this more comprehensive outlook. This evolution of concepts has affected not only the Public Health Service in the Department of Health, Education, and Welfare, but other Government agencies and departments, such as the Treasury and Justice Departments, and professional societies, such as the American Medical Association and the American Bar Association. I, therefore, asked Drs. Kenneth W. Chapman, Nathan B. Eddy, Robert B. Livingston, and Harris Isbell to serve as a committee to prepare for this meeting.

Out of the work done by this committee in planning the symposium, defining its purposes, consulting with and enlisting the cooperation of speakers and participants, there emerged a philosophy which underlies this symposium. This philosophy was beautifully expressed by Robert L. Duffus, one of the editors of the *New York Times*. I quote:

> We need humility among the so-called leaders of opinion. We need tolerance, tolerance that arises from a scientific recognition of the high percentage of fallacy and irrationality in our own beliefs. The wisest man at this stage of the world's affairs is he who knows that none of us is wise.

It has been exceedingly gratifying to witness the warm response on the part of those invited to present papers, to act as moderators, and to open discussions, and also on the part of you, the participating audience. I think this response must reflect a breadth of interest in making a comprehensive analysis of the problem. You will note from your programs that we have attempted to survey a comprehensive picture of narcotic drug addiction problems. We are sorry not to be able to hear about the history of international control of narcotic drugs from the Commissioner of the Bureau of Narcotics in the Treasury Department. We had hoped he would be able to be with us.

The essence of this meeting is free discussion. I hope very much that after each paper is presented, you will bring up any constructive comments that occur to you. Discussion and interchange of ideas among you is important to the solution of these problems. We wish the discussion to be free and unfettered, from your hearts and your minds.

EMERGENCE AND CONCEPT OF THE ADDICTION PROBLEM

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Anyone reflecting upon the history of narcotic drug addiction problems must be impressed by the tremendous source material on the subject and the accretion of literature, variegated and often contradictory. We are impressed by the lack of an adequate comprehensive history. Even historical monographs are sparse, as far as I am aware, not to mention the synthesis that pushes beyond factfinding to sense finding. I have taken but a feeble step toward filling these gaps. However, a useful purpose will be served if medical or pharmaceutical historians are attracted to explore this chapter of social history.

Meanwhile the work of Charles E. Terry and Mildred Pellens, "The Opium Problem," written for the Committee on Drug Addiction and the Bureau of Social Hygiene (*211*) remains a useful secondary source book, scholarly and comprehensive, but not the history we hope will eventually be written. In preparing these remarks I have used "The Opium Problem" together with a number of works that illustrate how hesitant has been man's progress toward an adequate concept of addiction and toward a general recognition and agreement of what constitute the main problems.

The etymology of the word "addiction" takes us back to the Latin "addicere," to Roman law, to the idea of giving over or delivering a person or thing to another, such as a judge assigning a debtor to his creditor. By transition, this came by the 16th century to refer to a surrender or dedication of anyone to a master. In our modern usage, we imply that addiction means to give oneself over to masterful drugs.

Although the term has an appropriate Latin pedigree, I wonder if Romans or any ancient people related chronic use of opiates to the concept of addiction. We know that opium was well known in antiquity and that it gave the familiar results. Yet there does not appear to be evidence of chronic opium intoxication. This scarcely implies that there was none, if we consider how relatively scarce is the surviving pertinent literature. The British Assyriologist, R. Campbell Thompson, reported evidence for the production and medicinal use of opium about the 7th century B.C. "Early in the

morning old women, boys and girls collect the juice by scraping it off the wounds [of the poppy capsules] with a small iron scoop, and deposit the whole in an earthen pot." Scribes apparently copied these phrases from older texts in a script few now can read. But how much older the originals may have been remains conjectural (*212*). It may be true, as is sometimes said, that the Egyptians were doing the same thing already about 1500 B.C. I could not find a clear substantiation of this possibility in the translation of the Smith Papyrus by the American pharmacist-Egyptologist James Breasted, nor in the translation of the Ebers Papyrus by the physician-Egyptologist B. Ebbell.

Questions of drug terminology, or hieratic script are tricky and perplexing even for such specialists. Another pharmacist-Egyptologist, the late Saber Gabra of Cairo, addressed himself to a few of these questions. One of his conclusions was that the red poppy *Papaver rhoes* was known in Egypt from the time of the Old Kingdom, but that *Papaver somniferum* was mentioned only much later. He concludes, as do other students of the question, that by the Greco-Roman period, at the latest, *Papaver somniferum* was economically important (*62*). In the *Odyssey* (Book 4, line 271), about the 9th century B.C., Homer apparently refers to opium when he tells of the Cup of Helen inducing forgetfulness of pain and sense of evil.

Among men of classical antiquity who cultivated knowledge supporting medical practice, the most prominent mentioned how to harvest the juice of the poppy and how to use it therapeutically. Theophrastus, the great botanist and student of Aristotle, in the 4th century B.C., mentioned the juice and the method of gathering it. Scribonius Largus, A.D. 1st century, who wrote what we call the first dispensatory, described how to procure opium from poppy capsules. Dioscorides, of the same century, the most influential pharmaco-botanist up to modern times, not only described the collection of poppy juice but differentiated it from a less active extract of the whole plant. Also in the 1st century, the Latin encyclopedias of Pliny and Celsus repeated the same information, as did the Greco-Roman papyri of Oxyirinchus and of Zenon.*

But not one of these authorities gave recognition to possible addiction. If this negative evidence suggests anything at all, it would be only that the problem did not seem pressing. Likewise, it has not been possible to find recognition of the addiction phenomenon or of its related social problems in medico-historical works covering the medieval period. The extensive use of *Papaver* and opium among the medieval Arabs is notorious, of course, and pharmaceutical and medical information about it can be found in the works of such writers as Abdal-Latif, Ibn al-Beitar, and Ibn-el Tamimi (*62,* p. 5). Meyerhof and other Arabists in the medical field do not seem to have pursued the question of addiction. It is commonly held that widespread use of opium among the Arabs following Mohammed stems in part

*Terry and Pellens (*211,* pp. 55–56) provide bibliographic references to treatises of Greco-Roman authors.

from the religious prohibition of alcoholic drink. It likewise has been supposed that early nomads of Arabia and Syria came to use vegetable extracts, including hashish and opium, for respite from discomforts of life under the desert sun. As traders, the Arabs are reputed to have passed on their knowledge of opium to Persia and China. Merrill found no trace of chronic intoxication mentioned in Chinese records of the period. Opium is said to have been mentioned as a medication in a book of Chinese materia medica by the 10th century (*87, 148, 149*). Flückiger and Hanbury have pointed out that there were in ancient times no Chinese or Sanskrit names for opium. In Chinese, the name *o-fu-yung* derives from the Arabic (*57, 141, 183*).

Early Western use of opium, except in therapeutics, again rests largely upon inference. Since there were no effective "specifics" for therapy and the supportive use of opiates for the relief of pain remained one of the most essential and satisfying treatments, it is not surprising that opium was used as well for psychological support. The extent of medicinal use of opium can be pictured when we recall that, for more than 1½ millenia, the favorite medications, notably theriac, mithridatium, and philonium, contained opium as their most active constituent. It is hard to exaggerate the esteem in which theriac was held by physicians and laymen alike. It was given compelling and enthusiastic support by Galen himself, and sustained its unquestioned repute as a panacea until the 18th century.

Crumpe provides an appreciative comment on the decline of these medications from an 18th century viewpoint (*31,* p. 212).* Overthrow of these favorite medicaments did not threaten, of course, the central place that opiates have held in therapy down to our own time. This emphasis partly reflects their ardent advocacy by Paracelsus, in the 16th century, who is quoted repeatedly in post-Renaissance literature on opium. For example, in 1701 the London physician John Jones says Paracelsus found "that a Preparation of Opium stood him in stead, and perform'd his Business when all his great Medicaments fail'd him; and that it will dissolve Diseases, as Fire does Snow. . . ." (*101,* p. 255).

Jones's discussion of opium portrays for us how writers by this time saw a problem emerging, but failed to form any concept of addiction fundamentally different from ideas concerning tobacco smoking or wine bibbing. Withdrawal symptoms were described by Jones in a section called "The Effects of Sudden Leaving Off the Use of Opium After a Long and Lavish Use thereof." These effects, he says, "are Great and even intolerable Distresses, Anxieties and Depressions of Spirits, which in a few days commonly end in a most miserable Death, attended with strange Agonies, unless Men return to the Use of Opium; which soon raises them again, and certainly restores them. . . ." (*101,* p. 32). Yet farther on in his book he pointed out that "the mischief of excessive doses and lavish use of either [meaning

*His excellent studies concerning his own experiences and the accounts of previous authors were translated into German and include a valuable bibliography.

opium or wine] is no argument against their inspiriting nature. None can argue from that that opium diminishes or disables the spirits any more than wine or bread does, a surfeit of which is most dangerous. *Omnis Repletio mala, panis vero pessima; et corruptio optimi est pessima. . . .*" Jones went on to explain that opium offends the stomach oftener "because of the indigestible Rosin sticking to the sides of the most sensile Stomach, as I shall further prove hereafter, (by God's Help) shewing very easie Ways and Means to separate that Rosin, and so make it as safe and less troublesome, as it is more effectual than Wine" (*101,* pp. 89 *et seq.*).

Like other writers, Jones drew a number of analogies between the effects of opium and alcoholic drink, saying that "The Evil Effects in this Case [of opium] do mainly proceed, either from too much Relaxation as in Drunkenness, or, from the Rosin in the Stomach." He concluded, with remarkable insight, that "the mischief is not really in the drug but in people" (*101,* p. 245). After the middle of the 18th century, one of the well-known works was a *Treatise on Opium* by an Edinburgh physician, George Young. The author said that everybody knows a large dose of laudanum will kill; few know that it is a slow poison but it certainly is one. Do we find here, then, an early recognition of addiction dangers? As did Jones in the preceding generation, Young recognized opium's power but not a special problem. By "slow poison" he meant, first, that the repeated doses may mask serious disease, hence hasten the patient's demise, and, secondly, that opium is so often administered in latent fever or excessive pain where it may actually do harm (*245*).

Two interesting American testimonies at the end of the 18th century indicating that medicine remained almost oblivious to addiction as a danger come from two theses for the M.D. degree written in Philadelphia in 1791 and 1792. One, by Valentine Seaman, was mainly concerned with showing that opium was a depressant (*189*), while the other, by Hast Handy, showed that it was really the contrary, a stimulant (*69*). Seaman, by the way, later collaborated with Samuel L. Mitchill on the first hospital formulary known to have been published in America (1816). Seaman stressed the disadvantages of high dosage of opium, because of convulsions and enervation of what he called the "animal functions," but there is no recognition of risk that could be interpreted as addiction. Hast Handy concluded in his study that, whereas opium may be overrated therapeutically, "many objections to it appear too precipitate" (*69,* p. 26).

Accounts of travelers in Eastern countries had long fascinated the West, and Handy drew a passage from Jean Chardin's *Travels into Persia and the East Indies* that tells us of nonmedical use of opium in the East in the late 17th century. "Those of the Persians who are accustomed to use this remedy," Chardin reported, "cannot live without it: the want of it produced depression of spirits and a languor and debility are instantly discovered in the countenance. The Turks say they cannot live without opium unless wine is given them in its place; and, even then, they are not content, as

they say the wine does not operate so powerfully on them as opium" (*69,* p. 14).

Probably one of the earliest authentic Western descriptions of what we recognize as development of tolerance and of physical dependence appears in *The Voyage of John Huyghen van Linschoten to the East Indies,* as follows: "Hee that useth to eate it, must eate it daylie, otherwise he dieth and consumeth himself. . . . He that hath never eaten it, and will venture at the first to eate as much as those that dayly use it, it will surely kill him: for I certainly beleeve, it is a kinde of poyson" (*137*).

Handy seemed more curious than concerned. It is hard to believe that he foresaw here any grave social or medical problem for the West. Possibly contributing to this complacency were often repeated stories that Orientals were peculiarly susceptible to the pleasurable use and effects of narcotics, in a way that Occidental people were not. Like Handy, Samuel Crumpe, M.D., a member of the Royal Irish Academy, was attracted by references to chronic use of opium appearing in travel accounts. He remarked, "The Mahometans, indeed, seem in every quarter of the world much *addicted* to it, as being denied the use of wine and other inebriating liquors by the tenets of their religion" (italics added) (*31,* p. 12).

We see here an example of the emergence of the term "addiction" as used in the context of this symposium. Yet this does not mean that Crumpe, in the late 18th century, held any concept distinguishing addiction to opium from addiction to, say, sugar plums. For it was in this period between the late 16th and the early 19th centuries that "to addict" commonly meant "to devote, give up, or apply habitually to a practice" (*150*) such as to a vice, a kind of modification of the idea in ancient Roman law. I believe he meant: It's a bad habit.

Crumpe quoted the lurid account of the opium eaters' market (called Teriaky Tcharchiffy) in Constantinople, published by the Baron de Tott 8 years before, which concluded with the statement that habitués on sofas "place themselves in order to receive the Dose which the habits each have contracted render necessary" (*213*). Yet Crumpe felt, as did his contemporaries, that "like wine and spiritous liquors in civilized Europe, it is in these countries the support of the coward, the solace of the wretched, and the daily source of intoxication of the debauchee." In breaking the habit, Crumpe saw withdrawal symptoms as striking proof of the stimulant qualities of opium. "A want of opiates," he said, "can only be obviated by the frequent and liberal use of other powerful stimulants." Although not concerned about chronic intoxication as a problem, Crumpe here tacitly recognized it (*31,* pp. 48, 177).

During the 19th century, several lines of development came to a focus that would bring recognition of a distinction between narcotic addiction and habituation to, say, alcohol or tobacco, and bring intensified awareness of addiction as a distinctive social problem. There were semifictional accounts of the experiences of addicts which, on the one hand sometimes

enhanced popular fascination with the powers of opiates; but, conversely, also brought popular support and awareness to the growing concern in medicine and pharmacy concerning an addiction problem that transcended a simple bad habit. The most famous of these literary accounts was Thomas de Quincy's *Confessions of an Opium Eater,* published first in 1821 and later in numerous editions. Furthermore, there was the wholesale addiction of the Chinese people, culminating in the now distasteful colonial chapter known as the Opium Wars.

By the end of the 17th century, more and more smokers in China were substituting opium for tobacco. The Chinese, according to innumerable stories at least, were first introduced to tobacco by the Portuguese; thereafter they are supposed to have gradually learned that tobacco was really much better as you kept adding a higher proportion of opium to it. This culminated in the Emperor's first edict against smoking opium, in 1729.

Open conflict of interests over the China opium trade in the 19th century gave a powerful thrust to public awareness of the addiction problem, although it was often presented as a peculiar susceptibility of Eastern peoples. As late as the 1870's one of the great opium merchants of England could counter a proposed restriction on the China trade by seriously arguing that ". . . since 1860 it has been rendered abundantly clear that the use of opium is not a curse, but a comfort and a benefit to the hard-working Chinese; that for many scores of thousands it had been productive of healthful sustentation and enjoyment. As well say that malt is a curse to the English laborer" (Quoted in Moule, Arthur E. *The Opium Question.* 1877, p. 43, through Wu) (*241*, p. 71). Sir T(homas) (?) Wade argued in rebuttal that the opium habit was "many times more pernicious, nationally speaking than the gin and whiskey drinking which we deplore at home. . . . It has ensured in every case within my knowledge the steady descent, moral and physical, of the smoker, and it is so far a greater mischief than drink, that it does not by external evidence of its effect expose its victim to the loss of repute which is the penalty of habitual drunkenness" (*241*, p. 71).

Later in the 19th century as opium imports into the West increased, the solace that there were either geographic or class boundaries to the problem began to melt away. The officially adamant attitude of the Chinese Government against the opium traders sparked social awareness of the problem, which in 1906 finally culminated in a reversal of British policy on the opium trade. An admirable historical monograph by Wen-Tsao Wu meaningfully discusses this tangled web under the title *The Chinese opium question in British opinion and action* (*163, 241*).

Still other factors helped sharpen awareness of the addiction concept and problem in the 19th century. Together with advances in medical management and psychological understanding of addiction there came, like swords with double edges, two pharmaceutical advances. First, a German pharmacist, Friedrich Sertürner, published in 1805–6 his first papers on the

"principium somniferum" in opium (*200*). Probably two French pharmacists, Derosne and Seguin, had isolated morphine independently before him, but Sertürner is to be remembered particularly because he recognized the alkaloidal character of morphine and thereby opened a whole new field of pharmaceutical chemistry. So began that remarkably conflicting literature on laboratory and clinical studies of the opium alkaloids. Second, in 1853, a remarkable new method of administering solutions of salts of alkaloids was first devised—the hypodermic injection. The subsequent contention has been that the innovation of alkaloids in injectible form was a primary factor in the spread of narcotic abuse (*182,* p. 124).

Under the impact of these developments, American pharmacy, insofar as it was professionalized in the 1860's, became painfully aware of the nature of addiction and of the social problem. I say "painfully" because pharmacists in the youthful American Pharmaceutical Association were well aware that opiates could be dispensed freely. And while there were a few academic courses in pharmacy by the time of the War Between the States, anyone could practice pharmacy who was bold enough to do so, except for modest licensure requirements in a very few isolated localities.

How the addiction problem appeared in the 1860's to thoughtful American pharmacists may be illustrated from the speeches and writings of Edward Parrish of Philadelphia. He cautioned in a pharmacy textbook, written for students of pharmacy and medicine, "The moral responsibility connected with the question of prescribing and dispensing opium may be greater than has been hitherto acknowledged. . . ." Elsewhere he points with alarm to "shops in the outskirts of our large cities in which the sale of laudanum forms one of the principal items of business." Parrish referred to "opium intoxication," to being "habituated," and so on, but still without distinction between alcohol and opium. He said that there could be no doubt that opiates were used by many "as a substitute for alcoholic drink." He said some who would shrink from using liquor habitually "employ this medicine . . . until they become victims to one of the worst habits" (*164*).

Four years later, in a book directed primarily at addicts and potential addicts, Horace B. Day stressed what he called that "frightful thraldom" of the victims, and his tone suggested the feeling of perplexity of the medical profession as physicians saw more clearly the complex of addiction. Day observed: "As yet the medical profession are by no means agreed as to the character or proper treatment of the opium disease . . . ," and elsewhere stated that a sufficient number of cases of opium eating probably had not been recorded and collated "to warrant a positive statement as to the phenomena attendant upon its use or its abandonment." One of the interesting features of Day's book—written in 1868—was his plan and his plea for a special institution. He said, "Could an institution for the purpose be established, the chief difficulty in the way of redemption of unhappy thousands would be obviated" (*38,* pp. 8 *et seq.*).

By the early years of the present century many lay and professional groups began to be alarmed in their awareness of the social problem. In the American Pharmaceutical Association meetings, the discussion was continuing but at a subdued level and intensity. A Committee on Acquirement of the Drug Habit was established in 1901. The committee promptly embarked upon an opinion survey of pharmacists to help identify the nature and extent of the problem and of the demand in pharmacies for addiction-producing drugs. The committee received a shock, and the next year reported data which it termed "appalling." The issue was still none too clear. In particular, other drugs in heavily advertised patent medicines were causing what some pharmacists considered problems analogous to the opiates. Acetanilide, bromide, and caffein attracted almost comparable concern to that drawn by opium. It was reiterated in the 1902 committee report, however, that "Opium and cocaine are much more brutalizing than is alcohol . . ." Still, in the early 20th century, the analogy so easily drawn with tobacco and particularly alcohol habituation tangled efforts at control both through education and legislation.

The American Pharmaceutical Association's continuing committee, in a somewhat stronger position than its 19th-century forerunners because of professional licensing laws, publicized to the profession the idea of a "sacred obligation," as they termed it, that pharmacists "not only have control but discretionary control." Their optimism about complete reliance on discretionary control had limits—in the face of widely varying professional standards—and they took action that same year to promote adoption of a model State law (*28*). James H. Beal, pharmacist and lawyer from Ohio, was directed to draft a bill. Already similar measures were being proposed in a number of States; Kansas and Tennessee had just passed new narcotic laws. In offering his draft, Beal stressed two objectives particularly: First, "The principal object of the law must be to prevent the creation of drug habits rather than to reform those who are already enslaved. . . . ;" second, he argued to settle "the broad principles involved, guard against flagrant abuse, and wait until evasion has been well-marked and dangerous, and then broaden the law so as to cover the evasion. . . ." He felt that otherwise it would be too difficult at that time either to get the State laws passed or to get them enforced.

Beal's model draft was adopted by the American Pharmaceutical Association in 1903 for distribution and furtherance in State legislatures, where it reportedly received "general adoption in more or less modified form" (*89*). Thus, before the first major step by the United States toward international control, the first Federal Narcotic Act in 1914 (the United States was the first nation to act upon the international agreement), a rather extensive pattern of State control had already been adopted; but regulation by individual States alone was clearly inadequate.

Despite the emergence of a concept of addiction and awareness of the social problem in the 19th century, and the massive movement toward

national and international social controls in the 20th century, recent reports of the World Health Organization Expert Committee on Addiction-Producing Drugs touch again on one of history's recurrent puzzles: The 1950 report discriminates between addiction and habit (*237,* p. 6), the 1952 report further clarifies this discrimination (*238,* p. 9), and the 1957 report still further amplifies it, with a reminder that "The time is ripe for emphasizing again the distinction. . . ." (*239,* pp. 9, 14). By isolating this point I exaggerate it, but the exaggeration serves to symbolize the complexity and the ever-changing identifications that addiction problems have taken as they intertwine with social, economic, political, and scientific developments.

FACTORS THAT HAVE INFLUENCED THE MANAGEMENT AND TREATMENT OF DRUG ADDICTS

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Drug addiction has a long history, but some of our problems of addiction belong to the recent past. My remarks deal generally with historical developments that have aggravated and complicated the drug problem. More specifically, they focus on some of the social factors that influence the current management and treatment of the drug addict.

The taking of drugs for the suppression of physical pain, the relief of anxiety and the production of pleasurable sensations or moods is a practice that extends back into early history. Ancient peoples regarded drugs as God-given gifts and praised those which were pleasurable or moodlifting. For centuries, drugs have played an important role in tribal and religious ceremonies. In modern times in the United States, the drug peyote continues to be used by some Southwest Indians during their religious rites.

The idea that the use of or indulgence in drugs is wrong or harmful appears as a relatively modern entry in historical annals. By a royal decree in 1729, China was the first country to prohibit the sale and smoking of opium. The motive for the Chinese ban appears to be the same as that which prompted the prohibition of tobacco smoking in China in the previous century. The smoking of tobacco was once punishable by death in parts of Germany and in Persia and Russia (*127*). At one period in history, Turkish law provided a death penalty, in forms agreeable to God, for violation of a tobacco decree.

The natural suspicion people everywhere have for new things was partly responsible for the extreme measures taken to suppress the use of drugs. However, the chief reason for the early prohibitions probably stemmed from a well-entrenched belief that any form of indulgence which was pleasurable must, by its very nature, be a sin. That medical reasons did have some impact on early prohibitions is shown by the condemnation of tobacco by a medical faculty in Holland because it "blackened the brain."

The use of opium as a panacea for ills or to give pleasure developed along with the early civilizations of Asia Minor and North Africa. Two factors, namely the usefulness of the drug and the absence of strong feelings about

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the wrongfulness of pleasure, probably underlie the fact that prohibitions on opium use were not introduced until a later date. Opium addiction was discussed in Germany as early as the 16th century. In England in the 1700's mention of the "noxious principle" in opium (*211*) appeared in publications, but opium addiction created no real stir in the English-speaking world until the 19th century and the appearance of the writings of De Quincy and Coleridge. Both of these famous authors were opium addicts, and they, joined by the addicted poet Francis Thompson, brought opium addiction dramatically to public attention. Increasing but still sporadic references to the abusive use of opium appeared in various parts of Europe after this period.

There was not much comment about opium use in the United States until after the Civil War. This war was said to have increased the abusive use of opium not only among the maimed and suffering soldiers but also among their "anguished" relatives (*38*). The post-Civil War writers in both the United States and Europe only hinted that emotional instability had any causal relation to opium addiction. These writers focused principally on the drug's striking, enslaving physical effects. Ludlow, an American writer of this period, wrote about the "fearful" gain (*139*) that the habit had made among former "liquor drunkards" and others who "a generation ago took gin." In none of the writings of this earlier time was there recognition of the fact that the majority of both alcoholics and opium addicts are fighting emotional conflicts with tranquilizing drugs.

Ludlow's use of the word "fearful" in connection with the alcohol to opium shift coincided with the beginning of factual and semantic distortions that led this country to introduce fearful legal and administrative excesses in addiction control. Note, however, that I am speaking of fearful excesses in methods of control. In point of fact, the slavery so easily acquired or imposed by the continued daily use of opiates is such a fearful thing that it does demand control measures beyond those needed for all other potentially harmful drugs.

But what has happened in this country is the almost total failure to provide for the necessary and proper measures. On the basis of a very evident need to prevent and cure the slavery to opiates, there has built up in this country an enormous mass of misinformation about their physical and moral effects. The collectors and disseminators of this misinformation have included sincere laymen and law enforcement officers aided to a considerable extent by otherwise competent physicians. For the most part, these people have exhibited the capacity to generate enthusiasm and zeal for the suppression of vice rather than the desire to obtain and spread proper knowledge of drug addiction.

Misinformation about opiates has snowballed into disaster-producing dimensions in the United States. The buildup started from a background of susceptibility to accept exaggerations. Even when opiates could be bought by everyone without restrictions there was a tendency to look upon

victims of the habit with disfavor and suspicion. The climate of the times was such that an individual might work for 10 years beside an industrious law-abiding person and then feel a sense of revulsion toward him upon discovering that he secretly used an opiate. Reinforcing the general tendency to suspect the addict was the fact that many addicts are fundamentally unreliable or peculiar personalities. However, these personal handicaps do not mean that the addict is incapable of being a good citizen or a productive worker.

Quite properly, medical textbooks used to state that the opium addict was untruthful. However, these books carried the erroneous inference that the opiate has some character-changing effect. This error derived from the observation that highly neurotic and psychopathic personalities, as well as some reasonably normal addicts, would enter hospitals in an effort to obtain relief from the disagreeable slavery that gripped them. Many of these patients brought with them some carefully concealed narcotic just in case their withdrawal symptoms became too severe. Many others would leave before the withdrawal treatment was completed. It was not then known that most chronic addicts are recruited from the ranks of unstable, unreliable people, and that the deceptions they practice proceed from their basically unstable personalities. Practically none of the old medical texts recognized or made mention of the intense anxieties of the addict or of the fact that his poor resistance to devious practices stems from a natural human desire to avoid discomfort and pain. It is true that the addict is often a marked liar, but this is understandably so. Ironically, his counterpart, the compulsive and even skid-row alcoholic, is usually considered "a good fellow when sober."

According to Terry and Pellens, the first effort to control narcotics by legal methods appeared in an 1875 San Francisco ordinance designed to suppress opium smoking. Generally, however, progress in control legislation was very slow until around 1897. Between that date and 1912, every State except one, and many large cities, passed laws or ordinances designed to regulate the prescribing or selling of opiates or cocaine, or both of these drugs (*176*). In 1909, the United States prohibited the importation of smoking-opium. All of these measures, and especially those that forbade the refilling of prescriptions, were helpful, and the incidence of addiction began to decline. But these controls were not enough, and Congress passed the Harrison Narcotic Act in 1914. The Harrison Act was a good law, but its strained interpretation and administration led to legal excesses never envisioned by the physicians and pharmacologists who advocated its regulatory provisions.

Almost immediately after the Harrison Act became effective in 1915, there began widespread indictment and imprisonment of physicians for narcotics violations. This occurred despite the fact that only a small percentage of the physicians prosecuted over the years have been guilty of doing anything contrary to the best of medical practice. For the most

part, these indictments have been for prescribing narcotics for patients who, in the opinion of their physicians, have a desperate need of the drugs. As a consequence of these attacks, most physicians discontinued prescribing narcotics in order to preserve their freedom and reputations as honest men, but their decision brought great suffering of patients, and even deaths. Another result of the physicians' resignation to pressures was that addicts to the opiates began to commit petty crimes in order to secure the drugs which could prevent their suffering. These inevitable law-induced crimes greatly accentuated the general public belief that opiates had some inherent sinister property which could change normal people into moral perverts and criminals.

Although the first steps towards the indictment of physicians were started by law-enforcement officers, some physicians in strategic positions to influence public opinion gave powerful support to the law officers. It is possible that without this early and ill-considered action, the United States would have developed a sane policy which recognizes that addiction is primarily a medical problem, but also one which requires some police action to insure adequate control. England developed such a policy, and as a result England has been more effective in control of addiction than the United States. In this country physicians have been cowed into dodging their responsibilities by the administrative practices which have prevailed over the past 40 years.

Williams (*234*), a physician, published a book in 1938 in which he states that 25,000 physicians had already been arraigned and 3,000 had served penitentiary sentences on narcotic charges. According to Williams, about 20,000 were allowed to cancel their liability by payment of a commensurate sum in compromise. This author does not cite reference to the sources of his figures but, whether or not they are accurate, it is a reasonable assumption that prosecution of physicians tapered off as the physicians themselves became increasingly fearful of prosecution, revocation of license, and unfavorable publicity. According to Federal narcotic reports, 757 physicians were convicted and 1,347 were reported to State licensing boards for revocation of license to practice medicine during the 5-year period ending 1935.

The dire plight of the abandoned addict brought about by the prosecution of physicians became so evident that a number of physicians, health officers and some peace officers began to see the necessity for some form of relief. The consequence was the establishment of clinics operated by health departments. However, the clinics did not prove to be the answer—for several reasons. Some of the clinics made no effort to reduce or limit the dosage of opiates. They also were known to give cocaine in the treatment of cocaine addiction, a practice that is never necessary. The clinics were all closed by 1923. The recently released report (*30*) of the Council on Mental Health of the American Medical Association shows that physicians and more specifically the American Medical Association

were largely responsible for closing the clinics. The clinic approach could never have been completely satisfactory in that the clinics were impractical as to coverage, and public apperance at the clinics was degrading to the patient who sought relief in them.

The closing of the clinics had disastrous consequences for sound administration of the law. Public opinion, already misdirected by propaganda and ready to accept the idea that the suffering addict was a sinner, became further distorted by the appearance of more addicts roaming the streets looking for the drug that would give relief and in their desperation committing crimes to get them. From these circumstances the idea of the narcotic criminal gained strength until only a few people seemed to realize that the addicts committed crimes not because of the effect of opiates but because of a desperate need for them.

The closing of the New York Clinic in 1919 was an especially potent factor in promoting hysteria about heroin. More than 7,400 addicts, about 90 percent of whom were users of heroin, were thrown on the streets of the city. Driven to commit crimes, including those of narcotic violations, many of these addicts were arrested. The increased number of arrests was widely interpreted as an indication of moral deterioration due to narcotics instead of evidence of maladministration of what could have been a useful law. There were, of course, physicians who dissented both as to the wisdom of closing the clinics and as to the harmful effect of the drugs. Many of those who persisted in helping their patients were arrested.

Propaganda increased to such dimensions that by 1924 many people believed that the number of addicts had actually reached 4 million and was growing by leaps and bounds. In sharp contrast to this exaggeration, the report (*114*) of the Public Health Service in 1924 showed that addiction was actually decreasing and that at that time there were no more than about 110,000 addicts to opiates and cocaine in the entire country. This report tended to allay some of the fears. Later reports of the Narcotic Division of the Treasury Department showing that the number of addicts had decreased below the Public Health figures added further assurance, but the propaganda about the narcotic peril had gained such momentum that general public feeling about narcotics never returned to a sane level.

About the same time that more factual incidence figures became available, careful clinical studies reestablished what had once been well known: that opiates do not incite to aggressive crime but have the opposite effect. This information was generally accepted by most thinking people, but some law enforcement officers, lacking an orientation or appreciation of medicine and pharmacology, did not accept the applicability of the finding to heroin. Nor did they accept the findings which showed that continued use of opiates does not cause moral deterioration and, except in large doses, is only a minor physical hazard.

Within a year after the Harrison Act became effective, a group of prominent officials met in Chicago to consider what should be done about the

plight of narcotic addicts. Zeller (*246*) reported in 1916 that the Collector of Internal Revenue had attended the Chicago meeting and had spoken of the widespread prosecutions of physicians. As far as I have been able to determine, the idea or notion that the addict is a criminal merely because of his addiction did not enter into the discussions of that meeting. There are accounts, however, that discussions during the meeting brought out the fact that addicts were committing thefts and burglaries in order to secure narcotics.

Zeller also described some early action in Illinois where the Governor placed the State hospitals at the disposal of victims of the newly created situation and ordered that every legal restriction governing the admission of the addicts be removed. It is of interest that the "superintendents were advised to shield the identity of patients even to the extent of admitting them under assumed names."

New medical studies following the excitement and difficulties created by the administration of the Harrison Act confirmed that addiction is a medical problem requiring treatment rather than a crime which deserves punishment. Partially as a result of the new studies, Congress in 1929 authorized the construction of two hospitals for the treatment of addicts. One desirable feature of the law creating the hospitals was that it authorized courts to place addict violators on probation with the provision that they accept treatment in one of the hospitals. Another feature of the law was designed to shield the identity of voluntary patients. In addition to relief given to patients, studies conducted at the hospitals—one at Lexington, Ky., and one at Fort Worth, Tex.—have been a valuable source of authoritative information on drug addiction. This is especially true of the Addiction Research Laboratory at Lexington where studies are made not only on legally declared narcotics but also on other addicting drugs.

The Lexington hospital studies have brought about wide acceptance of an effective method of withdrawing opiates with a minimum of discomfort and practically no danger to the patient. The methadone method does this better than any known method. Previous to the discovery of this method at Lexington, Kolb and Ossenfort (*118*) stated that all withdrawal methods are successful, provided the opiate is withdrawn and that the treatment is not so strenuous as to kill the patient.

The unwitting killing of patients by strenuous withdrawal methods was once very common. Kolb and Himmelsbach (*117*) cite one method under which 2 of 10 patients so treated died and another had to be revived by restorative measures and stimulants. Ironically, the method was praised by its inventors. The Mayor's Committee on Drug Addiction (*122*) in New York in 1930 did much to eliminate dangerous methods of withdrawal. The importance that the Lexington group has placed on determining the patient's degree of physical dependency before withdrawal procedures are started has been a deterrent but has not completely stopped the invention of new, useless, and even dangerous methods of treatment.

The difficulty of curing chronic addicts led to condemnation of the so-called ambulatory treatment after the passage of the Harrison Act. Either through the provisions of the act, or a strained interpretation of it, ambulatory treatment has become illegal. The States have followed the same pattern. For example, in California, hospitals and private sanitoria are not allowed to treat opiate addiction by methods involving the giving of an opiate without specific authorization by State authorities. This ruling is certainly shortsighted in light of the fact that withdrawal of opiates from ambulatory patients has often been successful. Psychopathic addicts have been known to carry out their withdrawal without assistance from physicians (*111*). In England where the opiate addict is not regarded as a menace to society or as a moral pervert, ambulatory treatment is commonly practiced.

The ever-increasing number of narcotic inspectors looking over the shoulders of physicians and making veiled, if not actual, threats has caused many physicians to retreat so far from rational thinking about narcotics that even they tend to believe the myths that engulf the subject. Illustrative of this is the fact that a physician says in the first sentence of his recent book (*244*) on narcotics: "Drug addiction is one of the deadliest evils menacing civilization today." Fortunately, the book also contains much sound information apart from this statement. From various other sources, one hears oft-repeated phrases about narcotics that have excited alarm and led legislators as well as some physicians astray. I am sure you have heard some of these phrases quoted about the use of narcotics: "Murder on the installment plan;" "The living death;" "The monster that threatens our civilization;" "Slow death;" and "Stands without parallel in the suffering of mankind."

As to widespread interference with medical practice by policemen and the general effects of such interference, I shall mention only a few typical instances. A physician who gave codeine to a patient suffering discomfort following a sinus operation was warned by the inspectors that the dose was too large. In another case, a physician was persuaded to take on a patient who, during the past 12 years, had 34 operations, including amputation of both legs at the hips. The patient became addicted to morphine. The physician, after carrying the patient for about 3 months, was visited by an inspector who told him to reduce the dose. Although the physician complied with the enforcement officer's order, he was reported to the district attorney and to the medical society for appropriate disciplinary action. The suffering patient was turned loose to shift for himself. In my opinion, the physician actually had been giving the patient a larger dose than necessary, but the error was of no consequence. I have seen patients who have taken similar doses for 30 years or more without suffering any apparent physical, mental, or moral harm.

A neurotic American woman with some residual pain following a condition from which she once suffered was carried on morphine for years in a European country. The treatment made it possible for the woman to live a

reasonably efficient and comfortable life. Upon her return to this country, she could find no physician who would risk his liberty and right to practice medicine by prescribing the morphine she needed. In desperation she had a lobotomy. This serious operation, which always leaves some undesirable change of personality but often relieves intractable pain, left the woman in worse condition than before. She is still complaining of pain.

Entrapment has been a common device used by policemen to send physicians to the penitentiary for prescribing narcotics, and incidentally to produce compliance in other physicians through fear. Entrapment was the technique used on one of the most respected physicians practicing in a large city. The physician was carrying three patients on small doses of a narcotic. He had prescribed for another one. When these treatments became known to the police, two of the patients were arrested for alleged narcotic violations but not prosecuted. With arrest and the possibility of 10 or more years in the penitentiary hanging over him, one of the patients agreed to assist in a police entrapment procedure. The patient was carefully schooled in an ingenious scheme to entrap the physician into a technical violation of law The plan succeeded on the second attempt, and the police arrested the physician a few minutes later in his office. Five separate indictments were returned against the physician, including one each for prescribing for the four patients not in good faith and not in the course of professional practice. Within a year after this physician's trial one of the four patients died with cancer of the lung, one with alcoholic cirrhosis of the liver, one (the entrapment assistant) with brain tumor, and the fourth was in a mental hospital. These end results show the folly of having zealous policemen with sword in hand supervising the practice of medicine.

The primary source of propaganda has been the enforcement officials who ignore or never see the wealth of sound material put out by medical specialists and pharmacologists. However, newspapers have unwittingly become a secondary source of propaganda which has been even more effective in distorting public opinion. Narcotics have become headline news. It is not unusual for a narcotic arrest or raid in California to get headlines in Washington newspapers. Recently a Washington paper carried a headline and a picture of a Dallas, Tex., dancer being carried off to a 15-year sentence for possessing narcotics. About the same time a San Antonio paper featured the photograph of a prominent surgeon being led away by a policeman. The accompanying news item, nearly a column in length, said the surgeon faced possible life imprisonment, and that he was addicted to demerol which was as bad as heroin. It is true that demerol is as bad as heroin when given in doses adequate to produce the same degree of medical relief, but this news account carried the inference that heroin is closely related to an atomic bomb in its destructive effects.

Being an addict is a felony in Texas, and is punishable by imprisonment in some other States. The physician who faced life imprisonment was also charged with using drugs presumably intended for a patient. For

such an offense in England, the physician may be fined and have his right to possess and prescribe narcotics withdrawn. Only very occasionally would such a doctor be imprisoned. It is no crime to be an addict in England. The dancer, if punished at all, in England, would serve perhaps 1 day and surely no more than 1 year.

The propaganda effect on already distorted minds when prominent people are carried off to serve long prison terms is to ripen the belief that these victims of a secret more or less harmless habit are really vicious criminals. It follows that much of the public lose all sense of proportion and believe such amazing statements as that 25 percent (*199*) of the crimes in the United States are committed by drug addicts.

In January of this year there was a headline item in a Washington paper about the arrest in Maryland of three people for the possession of equipment for administering narcotics. The paper noted that conviction for this violation carries up to 20 years imprisonment. On the same day there was a small item in another Washington paper about finding on the banks of the Potomac River the bodies of two men frozen to death after an all-night drinking party. On another recent occasion two prominent newspaper columnists writing for the same paper gave considerable space to narcotics.

Attacks on judges for being soft on addicts have been more than common. This device of the propagandists has the side effect of misleading the public while it intimidates or convinces the judges. But some judges have been neither intimidated nor convinced. Largely because of the intelligence and courage of these judges in resisting pressure to give excessive sentences, discretionary power has been taken from them by adding to State and Federal laws provisions for minimum mandatory sentences for narcotics violators. Here is an illustration showing the widespread effect of attacks on judges. After painting a lurid picture of addiction and after denouncing one of the presumably "soft" and incompetent judges, a radio newscaster called attention to the almost incredible fact that this man was actually a trustee of a certain large foundation, and of a world famous university.

Perhaps the most effective as well as the most amazing propaganda is the oft-repeated statement that the Chinese Communists are trying to weaken this country by smuggling into it and also giving away narcotics to our people and to our soldiers abroad. Communist China is said to be carrying on aggressive warfare through "depravity and human misery" and that this advanced invasion of a country is "just as successful as a whole series of bombing raids" (*7*).

An intelligent government official, misled by the propaganda, inserted the following statement in the hearings before the Senate Subcommittee on Improvements in the Federal Criminal Code: "The shocking fact is that despite all our efforts in the past, despite the heroic work of the Bureau of Narcotics and the various other Federal and State agencies con-

cerned, Communist China is succeeding in its terrible plan to cripple and emasculate us by furnishing ever-increasing quantities of habit-forming drugs for sale and, in fact, for free distribution in both the continental United States and to our troops overseas."

Obviously the official made this statement without knowledge of the history of smuggling and trading in opium. In actuality, the smuggling of and trade in opium are moneymaking practices that are centuries old. During the 19th century American traders were actively engaged in smuggling opium *into* China. A Western power fought two wars against China to force her not to interfere with opium trade. The Chinese have in the past and probably still are smuggling opium into other countries. In all of these cases, the motive has been money. It is a very recent American invention that opium is being used to weaken countries for the kill. It is well known that neither opium nor any of its derivatives, including morphine and heroin, have any such sinister, magical properties. Only in an atmosphere already clouded by propaganda and permeated with fear could the contrary and untenable idea take root and grow. The erroneous idea has flourished in this country and has helped to bring about the enactment of drastic, tragedy-producing narcotic legislation (*199*).

Propaganda has led to the enactment of some State laws as drastic as the Federal laws, but more important it has caused unfortunate administrative fury in their enforcement. Narcotics inspectors often spend months in preparation for their raids. In these raids and in smaller, more routine activities, they pull people out of their beds, off their jobs, and away from quiet, orderly gatherings. They search the cavities of women for narcotics. Armed with statistics showing the thousands of years of prison sentences that have been meted out to so-called vicious offenders as a result of their activities, the inspectors are prepared to testify before legislative committees and excited citizens organizations that they could do a much better job if their ranks were increased and if certain legal rights open to all other suspected offenders were withdrawn from narcotic suspects. Very often their ambitions have been fulfilled. The number of inspectors has increased in many jurisdictions, and some of the long-established legal rights of American citizens have already been withdrawn. Since 1940 the number of inspectors in 12 large cities has been increased more than 400 percent (*216*). These cities have 70 times more narcotic inspectors than all of Great Britain where commonsense control methods based on accurate medical and pharmacological findings have given more effective results than our witch-hunting crusade based only on zeal.

The crusading narcotic zealots, supported by honest, sincere people deluded by propaganda, have succeeded in making a narcotic offense our most severely punished crime. Offenders are given as large or larger sentences than offenders convicted of arson, burglary, forgery, larceny, kidnapping, rape, and robbery. Only in the case of narcotic offenders are probation and parole prohibited by law. A narcotic violation in Eng-

land that might bring a restraining sentence of 1 day in jail may, and often does, bring a punitive sentence of 10 years imprisonment in the United States.

Throughout all of the past 40 or more years of impelling propaganda, there have been physicians, pharmacologists, judges, and others who have seen the tragedy-producing errors in our methods and have had the courage to speak out. Their words, based on scientific judgments, have been all but drowned out by zealots bent on saving the world from a fictitious disaster of their own invention. Despite this, the voice of science has managed to be heard in some quarters and has been able to block some of the disaster-producing proposals.

Although rational action programs have been scant, we have been able to establish hospitals for treatment rather than punishment, and to enact in 37 states (22) and the District of Columbia, a number of laws that provide for civil commitment procedures. The recently published report on narcotic addiction made after an exhaustive study of the problem by the Council on Mental Health of the American Medical Association should do much toward dispelling popular myths and lead eventually to the establishment of a sound narcotic policy. This policy will be based on the fact that addiction is a health problem that needs some measure of police activity for its adequate control. It will recognize that for the general welfare, it is essential to eliminate police dominance in the creation of policy.

I have spoken to you as a physician familiar with all phases of the problem of narcotic addiction. In closing, I would like to leave with you a thought that Oliver Wendell Holmes expressed over 50 years ago in an address to the Harvard Law School: "An ideal system of law should draw its postulates from science. As it is now, we rely upon tradition, on vague sentiment, on the fact that we never thought of any other way of doing things as our only warrant for rules which we can enforce with as much confidence as if they embodied revealed wisdom. Who can give reason of any definite kind for believing that half of the criminal law does not do more harm than good?"

COMMENTS ON PUBLIC POLICIES RELATING TO NARCOTIC DRUG ADDICTION PROBLEMS

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We will attempt to depict what the world and its people have done to bring about a problem of drug addiction and what measures and methods have been and are being applied toward its solution, its abatement, its amelioration. The story of man and his works gives us the privilege of experiencing age without its infirmities and inconveniences. By coupling this experience with contemporary insight, we may find it possible to formulate reasonable conjectures and plans for the future.

Consider for a moment the rewards and harvests of most persons who become habituated to the use of opium or its derivatives. In the negative sense the rewards consist in the abandonment of all those things by which civilized man ordinarily lives, and with it the harvest of being utterly steeped to their lips in misery without their drug. Without it, or under circumstances that jeopardize or threaten the source of their supply, they eagerly embrace any and every means possible to obtain it. In consequence, they become morally irresponsible and find resort in the development of all sorts of degrading and shabby cupidity. They not only mutually fraternize with others of their kind, but assiduously seek to enlist others as new recruits to the habitual use of drugs, or conspire with anyone to obtain or insure them a supply of drugs. Unfortunately, there are many depraved men and women willing, for a consideration, to conspire with them for the latter end.

LEGAL DEFINITIONS

Federal law has defined "habit-forming narcotic drugs" as meaning opium and coca leaves or the innumerable alkaloids derived therefrom. It also includes Indian hemp or its derivatives, sometimes referred to as marihuana, hashish or locoweed, if you please, and also peyote or mescal button, a low-growing cactus indigenous to the Rio Grande Valley, used in religious ceremony by many North American Indian tribes.

The popular idea of "narcotic drug addiction" usually means addiction to opium or its alkaloid derivatives. Cocaine addiction is now rarely seen

since synthetic products with like analgesic properties have replaced the uses of alkaloids obtained from the coca leaf. Cocaine does not yield the same physical dependencies seen with opiates. It does, however, have marked stimulating and euphoria-giving qualities, with excitement. Intoxicating doses result in depression with variable degrees of muscular incoordination and may be followed by narcosis and convulsions. Recent studies conducted at the City of Hope Medical Center in Duarte, Calif., on the intoxication phenomena of peyote, show that peyote causes visual hallucinations which are said to be very beautiful and kaleidoscopic in character. Peyote is not really an addicting drug although it is so defined by Federal law.

PHENOMENON OF NARCOSIS

Narcosis, the mechanisms of which are not clearly understood, may be produced in various ways: by cold, fatigue, oxygen deficiency, and, strikingly, by certain hydrocarbons used in medicine for their anesthetic, hypnotic, or sedative effects. These are subject to abusive and habitual use, often with deleterious and sometimes fatal results. Popular concepts do not place them in the category of habit-forming narcotic drugs. They may assume such a role, however, for a given individual. A desire for respite from the tedium of life's routine is an important contributing factor as well as is injudicious use of these drugs in self-treatment during illness. Substances possessing narcotic properties may be put to habitual use resulting in a loss of the power of self-control to a degree that may affect or endanger the individual's health or the safety and welfare of the community. Alcohol is an example of such a substance.

Since chronic opium poisoning is the form of addiction with which this symposium is concerned, this paper will be limited to some aspects of that particular problem with special reference to questions of public policy.

CULTIVATION OF OPIUM

Gum opium is derived from the immature fruit of the opium poppy by slightly incising the fruit and collecting and drying the exuded milky juice. Several domestic forms of the plant are cultivated for yield of opium, although it is not generally known that a truly wild plant is found growing on the northern coast of the Mediterranean Sea. It has, however, a very low content of morphine. Successful cultivation of the opium poppy is possible where the climate is semiarid, tropical, or subtropical, and where there is not an excessive rainfall.

In parts of the Near East and the Far East, a peasant farmer of former days could grow his annual crop of opium not only for the drug but for the seed which has about two-thirds the value of the dried opium, and market his harvest on the back of a mule. For a time opium was a most profitable crop, and difficult or impossible to control. Economic changes, brought about largely through the discovery of oil, and affecting especially Turkey,

Iraq, Iran, and Saudi Arabia, have made it unnecessary for the people to gain their livelihood through the growth of opium. It must be appreciated that the control of the cultivation of opium in these Near Eastern countries was one fraught with very great difficulty.

OPIUM TRADE

The use of opium and coca leaf goes back to times immemorial. Its organized cultivation as a commercial product, and its control and monopoly for revenue purposes, however, began developing little more than two centuries ago. During these two centuries, it was prominently characteristic of commercial man to take what he wanted and to keep and protect it if he could. In other words, it was a period of junglelike existence. As a result of this code, countries that grew opium and Western governments which held colonial possessions there reaped a tremendous revenue from the sale of raw opium.

We know from history that the War of 1840, sometimes called the Opium War, between China and Great Britain, was a direct result of the illicit importation of opium into China by foreign traders, mostly from the British East India Corporation. The Chinese, despite their defeat in that war, refused to legalize the opium trade. As a result, China, with its vast area and population, was open to the world for a huge opium smuggling operation. A proposal was made in the British Parliament, about the middle of the 18th century, for the discontinuance of the opium monopoly and opium trade in the Far East. The smuggling situation in China, however, led to a second opium war between China and Great Britain, in 1855, with France as Britain's ally. Thus, Western European countries were taking profitable advantage of the development of this international opium trade.

At the close of the war of 1855, trade concessions were imposed on China; not only was the cultivation of opium legally permitted in China, but its importation from India was legally sanctioned also. In 1907 China decided to stop the cultivation of the poppy and to forbid the consumption of opium. China obtained an understanding with India that India would reduce and finally cease exportation of opium to China by 1917. This is known in Chinese history as "The Ten Years' Agreement with India." Great strides were being made in the direction of ridding China of the curse of the poppy, until about 1916 or 1917 when effective government was suspended in that country. Thus, the history of man's greed in international trade illustrates the introduction of a great national and international drug addiction problem.

EMERGENCE OF OPIUM PROBLEM IN THE UNITED STATES

More than a century has passed since the people of the United States first became generally aware of the socio-economic and legal aspects of the abusive uses of opium. Not only did the practice of smoking opium accom-

pany Chinese immigration, but quantities of gum opium were then imported into this country, both by resident Chinese and by Americans. The Chinese were first welcomed to this country not only for their picturesqueness, but because of the cheapness of their labor. This was soon replaced by a feeling of antipathy engendered by their separateness in life and habits. It was not until 1887, approximately a half century after the initial wave of Chinese immigration occurred, that the Congress of the United States prohibited the importation of nonmedicinal opium under the act of 1887 (24 Stat. 409).

In 1903 a proposal was made to revive the practice of "farming out" or licensing the sale of opium in the Philippine Islands, a monopolistic practice that was discontinued following the Spanish-American War of 1898. This proposal led to the appointment of the Philippine Opium Commission. Deliberations of this Commission, as well as the importation of very large amounts of raw opium into the continental United States during the year 1907, resulted in the passage of an act of Congress imposing absolute prohibition on the use of opium except for medicinal purposes. This act supplemented the act of 1887 and became effective in April 1909.

A short time after the report of the Philippine Opium Commission, it was proposed that the same Commission undertake a study of the opium problem in the Far East. By 1909, when the Commission met in Hong Kong, the existence of the opium problem in the Far East was recognized as were its effects upon Western European governments supporting the cartels and control of the opium monopoly. Out of the Hong Kong Conference, a movement commenced in several countries, especially those of Western Europe, to undertake a conference at The Hague. From this evolved The Hague Convention or treaty upon which is based our first Federal narcotic law. With the advent of the Versailles Treaty, the supervision of this Convention was subsequently transferred to the League of Nations and an Opium Advisory Board was organized thereunder. This Board studied opium production, movement and control, and the manufacture of narcotic drugs.

In 1931, a very significant convention was held in Geneva, under the auspices of the League, for limiting world manufacture of narcotic drugs to meet medicinal and scientific requirements only, the purpose being to stop an avalanche of contraband drugs. Later, functions of the Opium Advisory Committee of the League were transferred to the supervision of the United Nations. Thus man and his works not only created and promoted a narcotic drug addiction problem, but, for a period of more than a half century, have been dedicated to securing its solution. Recognition of inadequacies in international agreements and Federal legislation have been corrected and an elaborate system of control inaugurated for the registration or licensing of those who manufacture or deal with such drugs for business or professional reasons, and for a complete recording system relating to the movements and use of such drugs in international and domestic trade.

In 1956 a conference was held at the United Nations for the better control of traffic in opium and proposals made whereby certain countries will enter into a pact through the United Nations to grow and cultivate opium for medicinal purposes only. Four countries were considered for this purpose. There are many other countries that grow opium in clandestine fashion. Much of this clandestine material is difficult to control and is not suitable for manufacturing purposes. Opium which contains less than 12 percent morphine is not practical or economical to process.

LEGITIMATE DRUG TRADE

It is evident from this brief review of the international situation that international treaties and the laws of the land have made certain professional groups, and others, in the course of their daily affairs, the custodians of these drugs. Thinking people of this and other countries believe they have not misplaced this trust and confidently expect that such drugs will not be diverted away from *bona fide* medical and scientific uses. Violations of this trust are problems to be dealt with and corrected or prevented by the concerted actions of representative organizations and leaders among these custodial groups in cooperation with law enforcement agencies having responsibilities in the matter.

State measures for reducing the hazards of narcotic addiction had their beginning in the development of various regulations and laws governing the sale of poisons. Many persons living today can recall when laudanum, paregoric, and other opiates were readily available from any drug store, to most any person, and used as household remedies by many American families. During the last half of the 19th century, addiction to habit-forming narcotic drugs became quite prevalent in the United States due to ease of access. The first objective for regulating their sale was, in part, an effort to eradicate opium smoking, the abusive uses of morphine, and the promiscuous uses of cocaine prior to the introduction of cocaine into medicine in 1884.

REASONS FOR ADDICTION

The basic reasons for addiction to opiates in those days, when such drugs were readily available, were the same then as they are today. The various reasons, however, have acquired differences in relative emphasis. Thus the immediate reasons for addiction are related to the previous uses of such drugs in medical treatment, to self-treatment for the relief of pain, to overcoming the untoward effects of the overindulgence in alcohol, or for the relief of fatigue. The value of cocaine and benzedrine to combat fatigue, however, has long been the subject of controversy. Earlier writings on opium smoking, especially in India, indicated that opium had such value, although they admitted that physical and emotional degradation were sometimes associated with its use. The chewing of the coca leaves by South American laborers was once regarded to have such value, i.e.,

the value of relieving fatigue; but experimental studies with it in some European armies contradict this. Trials as to the value of benzedrine in combating fatigue were carried on with U.S. military personnel during the last war but were wholly negative.

Other reasons given for addiction are the influence and association with others habituated to their use; recourse to drugs during emotional stress; or indulgence for the sake of experience; curiosity, a thrill, or bravado. These reasons seem to prevail in individuals whose ego self-assertiveness is intimately bound up with an individual tedium or boredom of having to live with themselves. Among this group of people who do not feel at home in the world is a wide variety of personalities. Their manners and conduct range from extreme and bizarre methods for the disposal of life's problems and tasks, and for discriminating among these to ways and methods to find more or less ineffectual relationships with their fellow beings. In the latter respect, the reason for addiction is more often only incidental to other forms of antisocial behavior. If this be a true generalization, then we have a problem in the field of sociology and epidemiology as to where, when, and how addiction becomes established.

In the days when these drugs were more readily available, there was greater potential liability for addiction. Many persons then, known to be addicts but temperate in their use and stable in their dosage, carried on their normal life in the community with ordinary prudence. Others, however, lost their power of self-control and became social and economic burdens. The need for controlling and segregating the latter from the community was first recognized more than three-quarters of a century ago by the State of Connecticut by the enactment in 1874 of a compulsory commitment law for addicts who were dangerous to themselves or others.

UNIFORM NARCOTIC LAWS

For a long time it was recognized that the several subsequently enacted State laws pertaining to the narcotic addiction problem were lacking in uniformity. This need for greater uniformity attracted the attention of the Commission on Uniform State Laws in 1922. At the meeting of these commissioners in 1932, a final draft of a proposed State narcotic law was approved by the American Bar Association and plans were completed for its printing and distribution to the Governors of the States.

At that time it was thought that the adoption of a uniform State narcotic law would be mutually advantageous. It would tend to better crystallize the functions of the Federal Government enforcement agencies, not only in the field of detecting and eliminating the large wholesale sources of the illicit supply of drugs within our country, but for the control of the importation, manufacture, and the legal distribution of drugs required for medicinal and scientific purposes. It was thought also that such matters as the protection and prevention of the so-called illicit retailing of narcotic drugs and the revocation of licenses for narcotic drug retailing abuses

should, under a federated system of government, fall within the province of the functions of the several States.

PRUDENT USES

Studies conducted by the Public Health Service of the quantities of opiates legally distributed to retailers and dispensers in various sections of the country indicated wide variations in the per capita requirements of the general population. Great diversity of needs were observed even in different parts of the same sections. These investigations revealed that narcotic drugs were prescribed not only injudiciously, but sometimes inadvisedly and contrary to pharmacological knowledge, and sometimes for the satisfaction of the craving of addicts. It had long been apparent that addiction to opium or its derivatives is more readily induced in some persons than in others, one important predisposition being an inherent mental or emotional instability. Other factors must be considered, however, such as the solubility coefficient of the drugs prescribed, the rhythmicity of administration, and the use of dosages in excess of the need to control pain. It is known that addiction may be induced by the injudicious use of drugs in persons apparently free from any mental or emotional instability, and it is probable that even greater care must be exercised in their administration to avert addiction in the emotionally unstable.

From these studies, it was thought that valuable results might accrue through the medium of instruction to professional students and practitioners by issuing authoritative guidance memoranda on the judicious and indispensable uses of opiates in medical practice. This aspect of the problem was approached through the medium of the American Medical Association, the *Journal* publishing a series of articles on the indispensable uses of narcotic drugs. These were prepared by various authors representing various specialties and were issued in booklet form (202). They were published in cooperation with the Committee on Drug Addiction of the Division of Medical Sciences of the National Research Council and the Division of Mental Hygiene of the Public Health Service, and were financed by contributions from the Bureau of Social Hygiene. We believe that opiates should be conserved for judicious uses only. The revival of a broad educational program to that end may be desirable.

PUBLIC AWARENESS

In parallel with events already enumerated, an awareness of the general public of the drug addiction problem in the United States became more apparent through numerous newspaper accounts and by self-appointed agitators, many of whose activities were supported on a full-time basis as a philanthropic enterprise. This had its beginning following World War I and continued throughout the twenties. Much of this agitation contained elements of partial truth, dilated upon by well-meaning persons whose actual

knowledge was limited or was largely hearsay. In New York City cognizance was taken of the problem of addiction, and a series of outpatient clinics were organized for the purpose of supplying opiates to those habituated to their use. The fallacy of this policy was soon recognized. The difficulties of administration of the clinics and complications arising from the conniving and cupidity of those for whom the clinics were designed brought the effort to failure and the clinic system was abandoned.*

In the middle 1920's, the American Foreign Policy Association, a voluntary organization in New York, became interested in promulgating more accurate information on the subject of addiction, and together with the Laura Spillman Foundation, through its Bureau of Social Hygiene, supported the appointment of a special Committee on Drug Addiction and the employment of a medical director. For various reasons, including the resignation of several members of that committee and the director, for reasons of health, the work of the committee was discontinued. About this time the Public Health Service became interested in experimental studies of addiction in lower animals under the able leadership of Dr. Lawrence Kolb.

PUBLIC CONSCIENCE

Thirty years ago the plight of the individual narcotic drug addict was rather forcefully brought to the attention of Congress. The relationship of his problems to the common welfare and to the orderly conduct of public administration of penal and correctional problems was also brought to the attention of Congress. A significant change in Federal policy toward addiction resulted when the Congress, after extended hearings during the summer and autumn of 1928 proposed the development of two institutions for the segregation and confinement of persons addicted to the use of habit-forming narcotic drugs. They would accommodate addicts who have committed offenses against the United States, including Federal court, court martial, and consular court cases, those placed on probation by such courts, and those who may voluntarily seek treatment. The objects and purposes of the institutions were to rehabilitate, restore to health, and train to be self-supporing and self-reliant those admitted. While this legislation was pending, the Surgeon General of the Public Health Service was called upon to appear before the committee. He indicated that the Public Health Service did not desire to initiate support for this enterprise. The bill, nonetheless, was passed by the Congress and signed by the President on January 19, 1929.

The control, management, and discipline of these two institutions were to be maintained for the safekeeping of the individual and the protection of the community. Industries were to be established to afford occupation, vocational training, and education for those admitted. Experimental

* The U.S. Supreme Court has ruled that the prescribing of opiates for satisfying the craving of addiction does not come within the purview of the *bona fide* practice of medicine.

studies were to be carried out to determine the best methods of research and treatment in this field, and the results disseminated to the medical profession and the general public. The functions of these institutions assumed the character of treatment and research centers, of educational, industrial, vocational, and rehabilitation centers with certain custodial features superimposed. The law authorizing these two institutions created an administrative division in the Office of the Surgeon General of the Public Health Service, known as the Narcotic Division, for implementing the provisions of the new law. A year later the name was changed to the Division of Mental Hygiene with added responsibilities, one of which included analysis of the estimates of medical and scientific requirements for the United States with reference to opium and its derivatives. The names of the two institutions were later changed from "Narcotic Farms" to "Public Health Service Hospitals." This original Mental Hygiene Division of the Surgeon General's Office became the nucleus for the later evolution and growth of the National Institute of Mental Health. In that evolution, the administrative operation of the hospitals for drug addicts was transferred to the Hospital Division of the Service, the research studies alone being retained under direction of the National Institute of Mental Health.

PHYSIOLOGICAL EVALUATIONS

An early approach toward a better understanding of the nature of chronic opium addiction and its treatment was carried out at one of these institutions by inaugurating a system of uniformly recording the objective symptoms of the abstinence phenomena seen in addicts. For the first time in history a method, described by Kolb and Himmelsbach, was devised for evaluating these symptoms. Other early studies concerned the physiological nature of addiction, psychological studies on the suggestibility of addicts, the excretion of morphine, a factor having medico-legal implications, electroencephalographic studies, and the techniques for substitution studies of specific substances as to their addiction liability, the latter being furnished through a cooperative arrangement between the Public Health Service and the Committee on Drug Addiction of the National Research Council under the able chairmanship of the late Dr. William Charles White.

Mention has been made of the discontinuance of the Drug Committee of the Bureau of Social Hygiene during the late 1920's. Funds were made available from that source for the organization and support of a similar committee under the auspices of the Division of Medical Sciences of the National Research Council. The Public Health Service undertook to determine the addiction liability of new chemical compounds similar to those of opium whose chemical structure and physiological action on lower animals had already been determined through other cooperative units of that committee. The committee was supported by additional grants-in-aid by the Rockefeller Foundation, and some fellowships in chemistry were supported by grants-in-aid from the Merck Manufacturing Corp. The final results

of the committee's work was documented in two volumes (*119*). One purpose of the committee was to discover, through chemical, pharmacological and clinical studies, a substitute for opiates which would not have addicting properties. The inferences to be drawn from these studies are covered by Dr. Isbell's paper and Dr. Eddy's.

Further studies were made on the indispensable and judicious uses of the analgesic and other properties of morphine, and related substances, for the relief of pain in cancer patients and for the relief of cough in tuberculous patients, in cooperation with the Massachusetts State Department of Health. The State Legislature of Massachusetts had hurriedly passed a law requiring that the State health department assume the responsibility for administering a hospital for the care of the terminal stages of cancer. The State health officer was somewhat concerned about the possibility of there developing an illicit traffic in narcotic drugs in connection with the operation of this cancer hospital. Results of this cancer study were published in Public Health Reports under the title, "The Relief of Pain in Cancer Patients" (*32*). In many instances, the relief of pain in cancer patients could be controlled by such simple remedies as aspirin. In other instances, an opiate was necessary. The study on the antitussic effects in tuberculous patients, however, was interesting. It indicated that the amount of codeine necessary for controlling cough could be confidently reduced to one-third the customary dose.

CONCLUSIONS

This brief review tends to show that narcotic drug addiction problems stemmed from men of greed in the matter of commerce and trade and is being continued through the activities of depraved persons who conspire to furnish addicted persons with drugs for the maintenance of their addiction or who entice others to become habituated to such drugs. It is known that addicted individuals, having acquired a supply, are very apt to dispose of part of it for a consideration, thus assuring their own future purchases. It is known also that these addicted peddlers, or addicted pushers as they are called, may assiduously endeavor to recruit new addicts, often for the same reasons. This kind of peddler is a very great hazard and danger to the community because of serving to create new addicts. Much needs to be learned about the nature of addiction in order to stem this source of new addicts.

For more than a half century now, men of other bent have been dedicated to the solution or amelioration of these problems. Great progress has been made in this time, but there have been many frustrations some of which continue.

Thinking men and women believe that habit-forming narcotic drugs should be used for judicious medicinal and scientific purposes only and without subterfuge in dispensing, prescribing, or administering these drugs. An organized and cooperative educational program sponsored by those whose daily affairs cause them to be custodians of these drugs may be rewarding.

Furthermore, the need may exist for husbanding these drugs the better to meet any unexpected national disaster.

Under present Federal law, a more liberal use of probation by courts having jurisdiction is possible for addicts having committed offenses against the United States, on condition of probation that institutional treatment be prescribed and administered. The length of probation should take into account a period sufficiently long to insure adequate treatment, commensurate with medical knowledge about the particular individual, and, moreover, sufficiently long to insure in addition to hospitalization adequate court supervision for appropriate community rehabilitation beyond the period of hospitalization.

A genuine compassion for mankind sometimes requires the application of heroic measures for the cure or solution of those problems that adversely affect the welfare of a community and its people.

DISCUSSION

Discussion of papers by Drs. Sonnedecker, Kolb and Treadway.

White: My name is George H. White. I am the District Supervisor of the Federal Bureau of Narcotics for California, Arizona, and Nevada. I want to ask Dr. Kolb a question. The Commissioner of Narcotics informed me that during a discussion of demerol with Dr. Kolb, the latter advised him that the Bureau of Narcotics was acting too swiftly on demerol in putting it under narcotic control, that demerol was a wonderful drug, and that to class it as a narcotic might do more harm than good.

Kolb: When I was head of the Division of Mental Hygiene of the Public Health Service, I ordered tests run on demerol at the Lexington Hospital to determine whether it was addicting. The drug was found to be definitely addicting and dangerous. It is more harmful than heroin in that it produces certain side effects that heroin does not produce. The effects of heroin are mostly sedative in nature. Demerol can lead to convulsions and other unfavorable symptoms that Dr. Isbell can discuss better than I can. Demerol is definitely a drug that should be controlled by narcotic laws; but it is wrong to look upon this drug as something that is so dangerous that it is akin to an atomic bomb in its destructive effects.

The very comprehensive report on narcotics recently put out by the Council on Mental Health of the American Medical Association (*30*) says definitely that opiates which, of course, include heroin, are not as harmful as some other intoxicants tolerated by our society. Every day in the United States millions of people take some sort of mood-changing drug or intoxicant that is more harmful than the opium drugs, except for one thing: the opium drugs are more likely to cause a severe form of physical dependence with resulting withdrawal symptoms when the drug is stopped. The physical dependence which opiates induce is the only reason for their special control—and it is a good one. Demerol causes a similar slavish dependence, but it takes larger doses to do this.

If there is any documentary evidence showing that I once opposed putting demerol on the proscribed list, I would like to examine it.

White: That was my information, Dr. Kolb. If I am in error, I'm in error. Thank you very much.

Ossenfort: I am Dr. William Ossenfort from Dallas, Tex., where I work in the Public Health Service. It was my privilege to work with Dr. Kolb in Lexington, beginning in 1935. I have heard some of the same comments he made today from time to time over the last 23 years. Dr. Kolb made personality studies of thousands of addicts. He speaks with authority gained at the bedside. He is the Osler of drug addiction. When I worked with him, he gave me the privilege of organizing the staff for some 7,000 or 8,000 addicts at Lexington, and later at Fort Worth. I have yet to see a person who has become morally depraved because of the use of drugs. It was my privilege also to perform surgery and do the postmortem pathology. We were searching for something which would show what the use of opium had done to these people over the years. They didn't die of opium use; they died of intercurrent disease. We did not find one consistent sign of damage to the body from prolonged use of morphine, heroin, or opium. So far as I know, no one has yet found a distinctive organic change resulting from the use of opium or any of its derivatives.

Bellizzi: My name is John J. Bellizzi, Acting Chief of the New York State Narcotic Control of the Department of Health, Albany, N.Y. I direct my inquiry to Dr. Kolb.

I have two questions. One: Would you say that the program adopted and carried out at Lexington and at Fort Worth has proved successful in the treatment and cure of the narcotic addict? Two: Would you recommend the setting up of similar institutions, say, for example, in New York State, as proposed by several legislators? Or do you think that further study of the problem is required before these additional institutions are set up?

Kolb: The Lexington and Fort Worth Hospitals have been successful. But of course we all know that a large proportion of the treated drug addicts relapse. The relapse ratio is now higher than it was 30 or 40 years ago, and there is a good explanation for this. In earlier years, and especially before there were any restrictions on the sale or prescribing of narcotics, many more people who were normal or nearly normal in their nervous and emotional background became addicted. These normal persons were relatively easy to cure. Dr. Ossenfort's recent study of the narcotic problem in Iran throws light on this aspect of the subject. Until late in 1955, there was practically no effort to control opium in Iran, and the addiction rate was higher than it ever was in the United States and about 30 times higher than it is here today. A campaign of control and treatment of addicts was then started. Of thousands of addicts from whom the opiate was withdrawn in a 2-week treatment period, only 5

percent relapsed. More will probably relapse and apply for further treatment, but the fact that such a large percentage have stayed away from the drug for a year or two suggests that only a small proportion of them become addicted because of severe emotional disturbances.

The chronic addict is something like the chronic compulsive alcoholic. He wants to be cured and takes treatment repeatedly. Usually he relapses a few days after what he had hoped would be the final cure.

Lexington studies show that 60 percent of the discharged patients have not been heard from. No one believes that all of this large silent group were permanently cured. A partial explanation for their silence is that the cured addict likes to be forgotten because of the hostile interest that so many people have in him. Doubtless many of this group have been cured. Since the publication of my *Saturday Evening Post* article in 1956 (*113*), I have received letters from some of the hitherto silent group in which they have attested to their cure. One of Pescor's studies showed that of nearly 5,000 cases discharged from Lexington over a 5-year period ending in 1940 the status of 39.6 percent was unknown, 7 percent had died, and excluding the dead and unknown 74.7 percent had relapsed (*170*).

Most of the addicts treated at Lexington relapse, some as many as three or four times. I believe it was Dr. Wikler who has called attention to the fact that some of the relapsing addicts are cured after four or five treatments because of the gradual intrusion of some stabilizing psychological factor. The same thing may happen to the chronic, compulsive, relapsing alcoholic. The important thing is that the doors for treatment should not be closed because of relapses. Many voluntary patients go to Lexington and are treated without having their identity revealed to any police authority. The pressure of narcotic laws impels many of these people to seek treatment, and this is good. However, there is no sense in sending a man to the penitentiary for 10 to 20 years for possessing one grain of heroin or one marihuana cigarette. We need narcotic laws and assistance from the police, but the paramount need now is to get away from the extreme tragedy-producing measures for which there are neither social or medical justification.

As to the setting up of special institutions like the Lexington Hospital in New York, I don't believe this procedure is necessary. The hospital for juvenile addicts on North Brother Island is a desirable facility, but I believe that additional treatment needs of New York addicts who do not go to Lexington could be met by narcotic units in two State hospitals, one near New York City and perhaps one near Buffalo. If established, such units could be expanded or contracted as needed and competent staffs could be developed in them. This would not be possible if the patients were spread throughout the entire State hospital system. I would suggest laws authorizing these special units to accept addicts, mostly probationers from courts, as well as voluntary patients, with the provision that they could be held from 4 to 6 months within the discretion of the hospital staff. The Lexington and

Fort Worth Hospitals cannot legally hold voluntary patients, and about 75 percent leave before the staff considers their discharge desirable.

Levine: My name is Samuel Levine of the Federal Narcotic Bureau of New York City. I have a question for Dr. Kolb. According to a brief filed in the Court of Special Sessions in the State of New York by a man named John Presmont, who was charged with violations of the Marihuana Tax Act, he proposed Dr. Kolb as a witness to the fact that marihuana was harmless. Actually, Dr. Kolb never did testify in the matter, but I would like to get an expression of opinion from Dr. Kolb whether that was his opinion, that marihuana is harmless.

Kolb: I happen to know something about the Presmont case. Presmont wrote for my opinion about marihuana and later came to see me. I told him both in my reply to his letter and during our conversation that marihuana has some harmful effects. I cited the splendid study that was made by the Mayor's Committee in New York City some years ago (*122, 147*). I told him of the finding by this committee, that marihuana, given experimentally to susceptible persons (unstable prisoners), caused a toxic psychosis of brief duration in a few of them. In others, the drug produced psychological reactions that the committee believed might lead some people to commit crime. The committee found no evidence that marihuana had caused any crimes in New York City. Four other careful studies in this country of the relations between marihuana and crime give the same negative results (*14, 15, 172, 242*).

I told Presmont that I did not think marihuana was quite as harmful as alcohol but despite this I favored laws restricting its use for social purposes. Alcohol, during the past 2,500 years, has apparently become an irreplaceable part of our social structure. We know that it does much harm, but the fact that we tolerate this harm is no reason for permitting the indiscriminate use of another intoxicant. Perhaps the leading authority in the world on marihuana is R. N. Chopra of India. In a paper written some years ago by him and a coauthor, they said of a certain group in India that the practice of using bhang (marihuana) has "been largely replaced by the drinking of alcohol which is much more harmful" (*25*).

Marihuana is undoubtedly a potentially harmful intoxicant, but there is no sense in sending a person to the penitentiary for 10 years for having one marihuana cigarette in his pocket, a cigarette that would surely have no more effect on him than one drink of whiskey. Such treatment is ridiculous, fantastic and a disgrace to our civilization.

HISTORY OF LEGAL PATTERNS IN THE UNITED STATES

Hon. William F. Tompkins
Assistant Attorney General
U.S. Department of Justice

For the last few years my duties in the field of internal security have prevented me from being as active in the narcotics field as I would like. But the work I have been able to do and my associations have proved most gratifying. I have never witnessed any more conscientious, dedicated, and devoted people than those laboring toward a common goal in this field.

The first Federal measure seeking some degree of control over narcotic drugs was an act approved February 9, 1909, prohibiting the importation of opium and its preparations and derivatives, except for medicinal purposes. In practice, however, there was hardly any limitation imposed on the domestic sale and transfer of narcotic drugs in the United States until the enactment and enforcement of the Federal statute known as the Harrison Narcotic Act, approved December 17, 1914. Some of the States had laws purporting to regulate to some degree the sale of these drugs, but there appears to have been little, if any, enforcement of those laws. Veteran law enforcement officers recall that prior to the Harrison Act opium, morphine, laudanum, etc., could be and were purchased "across the counter" at drug stores, without prescription.

The Harrison Act, an Internal Revenue measure, required registration and payment of an occupational tax by all persons who imported, manufactured, produced, compounded, sold, dealt in, dispensed, or gave away narcotic drugs. A later amendment imposed a commodity tax at the rate of 1 cent per ounce or fraction thereof upon narcotic drugs produced in, or imported into, the United States and sold or removed for consumption or sale. Sales or transfers of narcotic drugs were limited generally to those made on authority of an official order form, which could be secured (in blank) by registrants from the Collector (now called the District Director) of Internal Revenue. Exception from the order form requirement was made in the dispensing to a patient by a qualified medical practitioner in the course of his professional practice only, and in the sale by a druggist to or for a patient, pursuant to a lawful, written prescription issued by a

qualified practitioner. The Federal courts have held, in effect, that the sale or dispensing of narcotic drugs to a drug addict merely for the purpose of gratifying addiction is not "in the course of professional practice only," as that term is used in the Harrison Act.

Another Federal statute, actually a reenactment and extensive revision of the act of February 9, 1909, is known as the Narcotic Drugs Import and Export Act. This act was approved May 26, 1922, and was subsequently amended. It now authorizes the importation of such quantities only of crude opium and coca leaves as the Commissioner of Narcotics shall find to be necessary to provide for medical and legitimate (that is, scientific) needs. Importation of any form of narcotic drugs, except such limited quantities of crude opium and coca leaves, is prohibited. The importation of smoking opium, or opium prepared for smoking, is specifically prohibited. Likewise, the importation of opium for the manufacture of heroin is prohibited. Exportation of manufactured drugs and preparations is permitted under a rigid system of control, designed to assure their use for medical needs only in the country of destination.

A third Federal statute, known as the Marihuana Tax Act (which is now a part of the Internal Revenue Code) was enacted in 1937. This statute requires registration and payment of a graduated occupational tax by all persons who import, manufacture, produce, compound, sell, deal in, dispense, prescribe, administer, or give away marihuana. A tax is also imposed upon all transfers of marihuana at the rate of $1 per ounce or fraction thereof, if the transfer is made to a taxpayer registered under the act, or at the rate of $100 per ounce, if the transfer is made to a person who is not a taxpayer registered under the act. Transfers are limited generally to those made on authority of official order forms obtainable from the District Director of Internal Revenue. Exception from the order form and transfer tax requirement is made in dispensing to a patient by a qualified practitioner in the course of his professional practice only, and in the sale by a druggist to or for a patient, pursuant to a lawful, written prescription issued by a qualified practitioner. The exception in favor of so-called medical use is practically obsolete, since medical practitioners no longer use extracts of marihuana, and the term *cannabis* has been eliminated from the *United States Pharmacopoeia*. The Marihuana Tax Act was designed to make extremely difficult the acquisition of marihuana for abusive use, and to develop an adequate means of publicizing dealings in marihuana, in order to tax and control the traffic.

The fourth principal Federal statute in this field is known as the Opium Poppy Control Act, approved December 11, 1942. The opium poppy, as a source of opium, is also the source of opium derivatives such as morphine, heroin, and codeine. The act prohibits the production in the United States of the opium poppy, except under license, and the issuance of a license is conditioned upon a determination of the necessity of supplying, by this means,

the medical and scientific needs of the United States for opium and opium products. No such necessity has arisen nor is likely to arise.

Now, these four statutes form the basis for Federal control over narcotic drugs and marihuana traffic. Most actions, of course, involve investigations, and prosecutions where necessary, under the Harrison Narcotic Act. Throughout the years, the vigorous enforcement of this statute has markedly curbed illicit narcotic traffic and its application has met with the outspoken approval of a number of U.S. District Court judges. In the U.S. District Court for the District of New Jersey in 1952, Judge Forman sentenced one Thaddeus David to a term of 2 years and 6 months upon his conviction for violating the Federal narcotic law. The following are excerpts from the Judge's remarks at the time of sentencing:

> You see, Mr. David, you are charged with a very serious offense. What you have done is like carrying diphtheria germs or smallpox germs into the community. Indeed, I think if I had a choice between the two evils, I would rather have a diphtheria epidemic or a smallpox epidemic than I would carriers of heroin or narcotics into the community because with diphtheria we find out the source of the germ—it is either bad milk or bad water—we can find the source of the germ and we can stamp out the source, we can vaccinate the people, and we can give them medicine. Some of them would be victims who would die, others would be cured, and we would clean the neighborhood out. But with carriers of this horrible germ, purveyors and peddlers of narcotics, we can't get to the source because people won't tell through fear of some outrageous, perverted sense of what is called "honor" among this class of people. We so often can't get to the source, and we just have this germ going through the community from day to day.

Again, in 1953, Federal Judge Ganey, in sentencing one Andrew Willis of Philadelphia to serve 5 years in prison and in fining him $2,000 after conviction as a supplier of narcotics, set a precedent for the manner in which such characters may be handled in the future. At that time it was the highest penalty permissible under the law, and Judge Ganey voiced his regret that it could not be heavier:

> This individual's crime rises higher in my judgment than that of any other I have had before me in the sale of narcotic drugs. Anyone who can stoop to the low level of cunning to make a living by not only selling but supplying drugs to peddlers and others, I think, must stand the full weight of the law. . . . I am satisfied from his record that he is one of the persons who must pay the penalty for indulging in this offense, which I deem the lowest I know in the law.

I have noticed in my travels around the country and in my conversations with Federal judges that the overwhelming majority of them feel very strongly on this problem of peddling dope. In my hometown newspaper, *The Newark Ledger,* on Saturday, I noticed where Judge McLaughlin of

the Third Circuit Court of Appeals sentenced one John Walker to 10 years in prison. The judge said:

> You stand convicted of unlawfully selling narcotic drugs. You are one of those who have been deliberately spreading this cancer among the people. Elimination of you will help a little in our Government's determined efforts to destroy this menace in Newark.

Then the judge called for an aroused community to do something about the problem. At the end of the article is a statement that on that same day District Court Judge William F. Smith sentenced two first offenders to 5 years on charges of violating the Harrison Narcotic Act. I was particularly gratified to read the day before yesterday in *The Evening Star* of the conviction of 18 very important defendants in the Southern District of New York. It was a trial that I have discussed on a number of occasions with Paul Williams, the U.S. Attorney there. I think he did a perfectly magnificent job in this trial. It is prosecutions of this type, and sentences such as Judge McLaughlin handed out, that are going to have a really deterring effect in this field.

After several years of enforcement of the Harrison Narcotic Act, it became apparent to the States that there was need for modernizing and strengthening their respective laws dealing with narcotic drugs, to provide a basis for State and local control of the traffic. A proposal for a uniform State narcotic law was made to the Conference of Commissioners on Uniform State Laws. The commissioners, with the cooperation of Federal and State agencies, the assistance of national drug trade associations and the American Medical Association, during a pediod of some 5 years, evolved a model draft of a uniform State narcotic law. This draft was submitted to the authorities of the several States in 1932. Since that date, the model draft, with minor changes in some cases, has been enacted into law by 45 States and the Territories of Hawaii and Alaska, the Commonwealth of Puerto Rico, and (by the Congress) for the District of Columbia. Two of the remaining States, California and Pennsylvania, have enacted laws which appear to be comparable in scope and effectiveness to the uniform law. The remaining State, New Hampshire, has in effect today a narcotic law which is not considered to be equal in scope to the uniform State narcotic law.

The uniform State narcotic law provides an effective system for intrastate control over narcotic drug traffic, paralleling in substance that of the Harrison Narcotic Act in the Federal field. There are some important differences: for instance, the uniform State narcotic law provides a licensing system for manufacturers and wholesalers, and contains a provision dealing more directly than the Federal law with the matter of fraud and deceit practiced to obtain narcotic drugs. However, the uniform State narcotic law limits the prescribing and dispensing of narcotics by a physician to "good faith and in the course of his professional practice only," a provision which is similar to the limitation contained in the Federal law.

Early in 1955, the U.S. Senate authorized the first nationwide investigation of the illicit narcotic traffic, including foreign sources, narcotic smuggling operations, drug addiction, treatment of drug addicts, and related matters. The investigation was entrusted by the Senate Committee on the Judiciary to a subcommittee under the chairmanship of the present Governor of Texas, the then Senator from Texas, Price Daniel. Concurrently, a subcommittee of the House Ways and Means Committee, under the chairmanship of Congressman Hale Boggs, undertook a similiar investigation and study of the illicit narcotic traffic. These subcommittees held extensive hearings at various places in the United States and received and weighed evidence from hundreds of witnesses dealing with all phases of this problem.

Both of the congressional investigative units determined that Federal penalties for the smuggling, distribution and sale of illicit narcotics were neither commensurate with the seriousness of the crimes, nor were they sufficient to preclude profits. Specifically, the report of the Senate Committee on the Judiciary stated:

> The Committee has found, however, that whenever and wherever penalties are severe and strictly enforced, drug addiction and narcotic trafficking have decreased proportionately. . . . The essential purposes . . . of making the penalties more severe for the smuggling, distribution and sale of illicit narcotic drugs, as summed up by the New Jersey Commission on Narcotic Control, are: (a) the heavy profit motive will be most effectively removed from drug trafficking; (b) will serve as strong deterrents to drug addicts who might become engaged in selling to support their habit; (c) long prison terms for convicted smugglers and peddlers are the equivalent of a severe loss of hard-to-replace manpower to the underworld organization and its merchandising system.

In the report of the Boggs subcommittee to the House Ways and Means Committee, there is a similar statement:

> Effective control of the vicious narcotic traffic requires not only vigorous enforcement but also certainty of punishment. Conclusive evidence was presented during your subcommittee's investigation that the imposition of heavier penalties was the strongest deterrent to narcotic addiction and narcotic traffic. In those areas of the country where we found leniency in sentencing the prevailing practice, drug addiction and narcotic traffic, without exception, are on the increase. Also, without exception, wherever heavier penalties are imposed by the courts, narcotic traffic and addiction are at a virtual minimum or nonexistent.

Both committees recommended, and Congress unanimously passed, a bill now known as the Narcotic Control Act of 1956, effective as of July 19, 1956. This law, in addition to providing certain additional enforcement facilities, provided increased penalties for the unlawful sale of narcotic drugs or

marihuana. For the first offense of unlawful sale of narcotics (as between adults), the sentence provided was not less than 5 years or more than 20 years, with an optional fine of up to $20,000, and with no probation, suspension of sentence, or parole for such a sale offense. The penalty for a first offense of the so-called unlawful possession type was not less than 2 years nor more than 10 years, with an optional fine of up to $20,000. But, in this case, probation, suspension of sentence, or parole remained available.

The new law also provided that whoever, having attained the age of 18 years, knowingly sells, gives away, furnishes, or dispenses, or conspires to sell, give away, furnish, or dispense, any heroin unlawfully imported or otherwise brought into the United States, to any person who has not attained the age of 18 years, may be fined not more than $20,000 and shall be imprisoned for life, or for not less than 10 years, except that the offender shall suffer death if the jury in its discretion shall so direct. In other words, it provides an extremely heavy penalty for sale to a minor.

In the meantime, and particularly since the end of World War II, State authorities have been cognizant of the importance of heavier penalties as a necessary means of reducing violations of their respective narcotic laws. Most of the States were cooperating actively with the Federal Government toward the common end of eliminating or reducing to a minimum the illicit narcotic drug traffic. The State of Ohio, for instance, had enacted legislation in 1955, providing for more drastic penalties, including a 20-year minimum penalty for the unlawful sale of narcotics. It may be stated that after the imposition of such penalties in the Ohio courts, illicit drug peddling in that State has become exceedingly rare. During 1957, heavier penalties, ranging from 2 to 10 years' imprisonment for a first offense of the unlawful possession type, and from 2, and in some cases, 5 to 20 years for the offense of unlawful sale, have been enacted in the States of Alabama, Colorado, Illinois, Minnesota, Missouri, Pennsylvania, and Texas.

There is and always has been a cordial cooperation between Federal, State, and local law enforcement officers in this field. Up until a few years ago, the narcotic enforcement problem was left largely to the Federal Bureau of Narcotics. However, recently, with the establishment of separate narcotic units in the police departments of the larger cities, a large proportion of narcotic cases are investigated by State and local enforcement officers and prosecuted in local and State courts. Although it is still definitely too early to determine what effect the Narcotic Control Act of 1956 will have on the traffic, there are indications that, where severe sentences are consistently imposed, many of the persistent traffickers have dropped out, or have been sent away to long prison terms and probably will not show up in the traffic again.

This cooperation between Federal, State, and local authorities has been probably one of the most gratifying developments in the last 7 or 8 years. For a long time, the Federal Bureau of Narcotics bore the brunt of enforcement, but now the States have gone forward and have assumed their proper

responsibility. I know specifically, regarding our situation in New Jersey, that when we did get interested in the problem and when we did decide to do something about it, the Federal Bureau of Narcotics did everything possible to help us. They had a great deal to do with training the agents who have been so effective in New Jersey.

Now, as an index of the efficacy of heavier penalties in discouraging illicit narcotic traffic, I note from the record of the House Committee on Appropriations (85th Congress, 2d session) evidence that the number of drug addicts reported for the year 1956 as 9,296 decreased to 7,070 reported for the first 11 months of 1957. It is fair to say that the illicit narcotic traffic in the continental United States is approaching somewhat that condition in Hawaii in 1955 which was described in a letter from Judge McLaughlin:

> Things are tough hereabouts for addicts these days as a result of Judge Wiig and I seeing eye to eye regarding narcotic peddlers. After a few 10-year sentences, the boys folded up.

Also pertinent is the following letter, dated April 18, 1957, from the U.S. Attorney for Hawaii, the Honorable Louis Blissard:

> Last week our Federal court sentenced Hang Gee, a resident from San Francisco, to 10 years' imprisonment on a charge of smuggling heroin into the United States.
>
> Although this was Gee's first offense, our information indicates that he was not a stranger to the narcotics racket. He was apprehended at the Honolulu Airport with approximately 2 pounds of heroin strapped to his leg, and was at that time en route from Hong Kong to San Francisco. This was the first heroin case we have had in this district since John Ginoza, in December 1955, smuggled some heroin into Hawaii from Japan. (Ginoza was apprehended shortly after this attempt, convicted, and sentenced to 5 years in prison.) . . .
>
> Except for this one very brief period when Ginoza had heroin available for sale, there has been no heroin available in Hawaii for over 2½ years. Shortly after World War II, the traffic became a critical problem in Hawaii. However, by the fall of 1954, the heroin traffic here was completely wiped out through a series of prosecutions which culminated in some severe sentences, ranging up to 15 years. After these severe sentences were imposed, one persistent but unapprehended wholesale peddler is known to have stated that he had seen enough and was going into a legitimate business. There has been no heroin on the streets since that time.
>
> From time to time we receive reports that heroin is coming through on ships from the Far East, but I think it is significant that it is not taken off here in Hawaii. The reason, in my opinion, is that the people who are smuggling the narcotics are well aware of the treatment they will receive if they are apprehended in Hawaii. Your office is "on top" of the local situation at all times, and although we are in the path of the smuggling of heroin from Communist China to the United States,

our happy situation is due unquestionably to good enforcement, vigorous prosecution, and stern justice.

I think I have heard most of the Federal judges at one time or another reiterate those views. In closing, I should like to say that I have confined my discussion to the approach from the law enforcement angle. But in the broad field of narcotic drug addiction, reasonable and dedicated people may, and do, differ on various phases of the problem. However, when you consider that the illicit narcotics traffic is one of the pillars of organized crime in America, good enforcement, vigorous prosecution, and stern justice are an integral part of the solution. I feel certain that there is general agreement on these principles and I also feel very certain of this: That the American people want these principles observed and that they are certainly entitled to no less.

A COMPARATIVE STUDY OF CONTEMPORARY NATIONAL LEGAL PATTERNS RELATING TO NARCOTIC DRUG ADDICTION

Rufus King
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The Greek root of the word "symposium" is "fellow drinker" or "convivial drinker," and the first meaning of the English word is "a drinking party; a convival meeting for drinking, conversation, and intellectual entertainment." I think it is notable that each participant in this conference on the problem of drug addiction is provided with an ash tray at his seat and that we have been convened by an invitation to a symposium—a sort of highbrow bacchanalian revel.

Medical doctors agree fundamentally about this problem of drug addiction. But a good many of the rest of us do not—the lawyers, enforcement people, judges, sociologists, legislators—particularly here in the United States. I tend to align with those who believe that our policies in this country are open to grave question and are in need of careful examination. I incline toward the belief that this is one of the last areas in which we are still applying a harsh set of criminal sanctions to deal with what is principally and essentially a health problem.

This conflict—between the penal-sanction approach and the therapeutic approach—is not confined to the drug-control problem; it is a conflict which has dominated the entire administration of justice for at least the past half century. Our changing attitudes toward insane people, toward juvenile offenders, toward homosexuals, and all the reforms we have been making in sentencing practices and in prison administration, reflect a trend away from the notion of vengeance and punishment, a trend toward emphasizing therapy and rehabilitation of the offender.

My title, "A Comparative Study of Contemporary National Legal Patterns Relating to Narcotic Drug Addiction," might have been shortened to "Around the World in Forty Minutes." I can only offer some general conclusions. My first point is that a good many countries with backgrounds similar to our own have done better with this problem than we have. My second point is that the examples and experiences of some of these countries are worthy of our careful study. My third point is that one key factor in their success seems to be the role in which the medical

profession is cast, the extent to which doctors and medical science retain an authoritative relationship to the addict and to the problem of community control.

The most interesting and valuable experience for study is that of the British. Therefore, I am going to treat that in considerable detail. We made a study of British criminal law this summer when the American Bar Association held its annual meeting in London. During the course of this visit, I at last discovered the secret of reaching an understanding about all British institutions: you must begin with the premise that for them water sometimes runs uphill. If you keep that in mind, everything concerning the way the British do things falls into focus. British drug laws and policies are, in this tradition, somewhat illogical. This has given rise to a good deal of controversy and confusion in the United States as to what really is the British system.

One thing is not open to controversy: the problem in Britain has nothing like the magnitude or the intensity which we know here. They have no black market, except for a little trading in hemp (marihuana) in the waterfront areas, and possibly occasionally some smoking opium that gets in off a boat to Chinese consumers in the Limehouse area. They have no "dope rings" and no "dope peddlers"—they don't really need those terms. They have no substantial police problem. They have an addict population, measured by a means which I shall discuss in a moment and which is more accurate than ours, that year after year remains under 500 for nonmedical addicts. At the end of 1956 their addict population in the nonmedical category was 333 persons.* There is an additional known addict population in the medical category, that is, terminal cancer cases, cases where other medical symptoms indicate a narcotic regime, which also runs in the magnitude of 400 or 500. Now note: if this same ratio of addict population were applied to our national community, the nonmedical addict population for the United States would be in the range of 1,200 or 1,300.

We must concede some differences, of course, between our community and theirs. The United Kingdom has a homogenous population. The British are more temperate in other categories. They don't have the problem of alcoholism to the degree that we do. They are perhaps traditionally more law abiding than we. But even making full allowance for all these differences, their success in dealing with the problem of drug addiction merits careful attention and scrutiny for its bearing on our own approach.

British statutes controlling narcotic drugs do not vary significantly from our own. Their Dangerous Drug Act was enacted in 1920 (*33*), just when our own Harrison Act (*70*), after the hiatus of the war, was beginning to be developed and vigorously enforced. The Dangerous Drug Act sets forth substantially similar requirements. It imposes an obligation on all persons who handle dangerous drugs (the narcotics and some others) to register,

*At the end of 1960, their nonmedical addict population was 454 persons (of whom 209 were on synthetic drugs rather than opiates).

obtain licenses, and keep records. It prescribes regulations for the importer, manufacturer, dealer, and retailer. Pharmacists are required to preserve their records and to keep a register, which is open to inspection by the police authorities. Persons prescribing and dispensing drugs—that is, doctors, veterinarians, surgeons, dentists, and so on—are also required to keep records, although this requirement has never been very strictly enforced.

The Dangerous Drug Act also has a substantial penalty structure. Until 1951, the maximum imprisonment was 2 years, with no minimum. In 1951, the revised Act (*36*) increased the maximum penalty to 10 years' imprisonment and £1,000 fine. For what they call a "summary conviction," which means a conviction on information without indictment—this is again one of those illogical British devices; it is a way by which the same offense can be prosecuted in a less formal way and subject to less strict penalties—the maxima are 12 months and £250. The law also provides that if any breach of the act or regulations is committed through inadvertence, the maximum penalty will be a fine of £50.

Actually, penalties in the severe range are very seldom imposed by the courts. In the year 1956, for instance, in the entire United Kingdom and all its court systems, there were 144 prosecutions arising out of violations of the Dangerous Drug Act (according to the official U.K. report to the U.N. for that year). Of these, 103, or more than two-thirds, related to marihuana offenses. Sentences imposed in this category, according to the same reports, ranged from 6 weeks' to five years' imprisonment, and from £2 to £250 in fines. Twelve prosecutions were for offenses involving opium, with sentences ranging from 2 to 6 months' imprisonment and fines of £5 to £100. In many of these cases there was either no fine or no sentence. Only 29 of the prosecutions were for violations relating to manufactured drugs, that is, opium products, morphine, heroin, etc., and slightly more than half of these were for the offense of forging prescriptions—an addicted person forging prescriptions to get the drugs—or for the offense of seeking a supply of narcotics, by fraud, from a second doctor when the addict was already under the care of one medical practitioner. Eight of the 29 were for failure to keep drugs in locked receptacles, or for similarly technical violations of the regulations. Among all of these 29 prosecutions, sentences ranged from 1 day to 6 months, and the fines from 10 shillings to £100.

Both the British Dangerous Drug Act of 1920 and the 1951 revision set the statutory pattern in very general terms, and left to the Secretary of State for Home Affairs the responsibility of promulgating regulations to implement the act. Regulations which were drawn up to implement the act contained the same critical ambiguity which troubled our own courts and our own enforcement authorities in the early days under the Harrison Act. It will be remembered that the Harrison Act exempted from recordkeeping and tax limitation requirements the dispensation of drugs "to a patient by a physician, dentist, or veterinary surgeon . . ., in the course of his professional practice only." That is the language of the American law. The

British regulation, after naming classes of persons who would be exempt—physicians, researchers, veterinary surgeons, etc.—provided that a person in any of these named classes "shall be authorized, so far as may be necessary for the practice or exercise of his said profession . . ., and in his capacity as a member of his said class, to be in possession of and to supply drugs." The key language in the American law is thus, "in the course of his professional practice only" and in the Dangerous Drug Regulation, "so far as may be necessary for the practise or exercise of his said profession (*34*)."

In both cases the critical question was: Did this language include and embrace the administration or prescription of narcotic drugs to an addicted persons? Was the treatment of an addict, who had no other medical symptoms but the problem of addiction, within the scope of legitimate medical practice as these laws and regulations referred to it?

The British Home Office even took the same line, at the outset, as the Prohibition Unit of our Treasury Department, which had initial responsibility for the enforcement of the Harrison Act, insisting upon a narrow construction, and issuing the following to interpret the above language:

> The authority granted to a doctor or a dentist to possess and supply dangerous drugs is limited by the words *so far as may be necessary for the practise or exercise of his profession.* In no circumstances may dangerous drugs be used for any other purpose than that of ministering to the strictly medical or dental needs of his patients. The continued supply of dangerous drugs to a patient solely for the gratification of addiction is not regarded as *medical need.* In a number of cases doctors and dentists who have obtained drugs ostensibly for the needs of their practices and have subsequently diverted them to the gratification of their own addiction have been convicted of offenses under the Dangerous Drug Act (*35*).

The similar language of the U.S. Treasury regulation is:

> An order purporting to be a prescription issued to an addict or habitual user of narcotics, not in the course of professional treatment but for the purpose of providing the user with narcotics sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning or intent of the act; and the person filling such an order, as well as the person issuing it, may be charged with violation of the law (*217*).

The import of both of these rulings was that doctors, to a still not clearly defined extent, would be prohibited by the operation of the law from providing drugs to addicted persons. In the context of those acts, and at the time this problem first came up in the 1920's, there was a serious problem at which this language was properly aimed, the problem of what was called the "script doctor." There were people in the periphery of the medical profession and in the much more loosely organized pharmacy field who were running rampant; some doctors were addicting patients to build up a practice, some druggists were making fortunes in dealing in contravention

of the then State regulations, where they existed, by completely indiscriminate sales—really peddling or trafficking. Therefore, the penal component in these regulations was to some extent justified as a curb on abusive practices by the medical profession and people on the periphery of that profession.

But at this point, where this ambiguity existed in both laws, our country and Britain parted company. Our authorities launched a vigorous campaign of prohibition against the medical profession. In 1923, after a series of arrests and successful prosecutions, they obtained an interpretive decision from the Supreme Court in the case of *United States v. Behrman* (*218*) which held that prescribing narcotic drugs on a so-called ambulatory basis to a known addict, even in good faith in an attempt to cure his addiction, was a violation of the act and an indictable offense. In other words, they cut the addict off from medical help unless he was hospitalized or jailed, and they enforced the law to that effect. Public treatment facilities for addicts on an outpatient basis were closed. Doctors who resisted were vigorously prosecuted, and a number of them were actually convicted. The result was that in this country doctors were intimidated to the point where they would not treat an addict at all. The addict was thus driven away from any relation with the medical profession, and thrown right into the arms of the peddler.

The Honorable William F. Tompkins has made a clear case this afternoon for the most severe punishment of *peddlers* when brought before the courts. I don't think there is anyone concerned with this field who wouldn't and doesn't aline himself with the strongest kind of a repressive program, and the gravest punishments for the *nonaddicted peddler,* the cruel, predatory, human shark who is making monetary profit out of this traffic. We encounter difficulty when this repressive policy extends to punishing the *addict,* and the medical profession as well. The nonaddicted peddler is certainly one of our most despicable and malevolent criminal types. The reason that penal sentences are so much lower in England is undoubtedly because they don't have that kind of fellow over there. He is unknown in their social structure. When those who hold my views are accused of being "soft," it cannot be fairly claimed that we hold any sympathy for the peddler.

During this formative period in the early 1920's while we in the United States were prosecuting doctors for administering narcotics to addicts, the English authorities declined to bring any such prosecutions. The same ambiguity was in their Act; yet they professed to recognize that this uncertainty, this question of how far the treatment of an addict was a legitimate medical practice, was a question peculiarly within the province of the medical profession itself. So at the instigation of the British Government a committee of prominent doctors was appointed under the chairmanship of Sir Humphrey Rolleston, and in 1924 this committee undertook a careful 2-year study of precisely this problem: What is the proper role of the medical profession with respect to the narcotics addict? The

Rolleston committee made its report back to the Home Office in 1926, in part, as follows (*184*):

> *Precautions To Be Observed in the Administration of Morphine or Heroin.* The position of a practitioner when using morphine or heroin in the treatment of persons who suffer from addiction to either of these drugs obviously differs in several important respects from that in which he is placed when using the drug in the ordinary course of his medical practice for the treatment of persons not so affected. Not only will the objects of treatment usually differ, but also the dangers to be avoided, and the precautions that are therefore necessary. It is thus convenient to discuss these precautions separately as regards:
>
> (i) The administration of the drugs to persons who are already victims of addiction, and
>
> (ii) The ordinary use of the drugs in medical and surgical practice.
>
> In the preceding section, the conclusion has been stated that morphine or heroin may properly be administered to addicts in the following circumstances, namely, (a) where patients are under treatment by the gradual withdrawal method with a view to cure, (b) where it has been demonstrated, after a prolonged attempt at cure, that the use of the drug cannot be safely discontinued entirely, on account of the severity of the withdrawal symptoms produced, and (c) where it has been similarly demonstrated that the patient, while capable of leading a useful and relatively normal life when a certain minimum dose is regularly administered, becomes incapable of this when the drug is entirely discontinued.

The report then goes on to discuss the proper medical precautions to be observed in the treatment of addicts by the gradual withdrawal method. Before beginning a narcotics regime, the doctor should seek a second medical opinion. He should keep in touch with the Home Office as to the basis on which the patient is being treated. If the practitioner finds he has lost control of the patient, he should bring pressure on the patient to enter an institution. The report then continues with another brief essay on the proper precautions in the treatment of apparently incurable addiction cases and with what the medical practitioner should do when confronted with this problem:

> *Precautions in Treatment of Apparently Incurable Cases.* These will include both the cases in which the severity of withdrawal symptoms, observed on complete discontinuance after prolonged attempted cure, and the cases in which the inability of the patient to lead, without a minimum dose, a relatively normal life appear to justify continuous administration of the drug indefinitely. They may be either cases of persons whom the practitioner has himself already treated with a view to cure, or cases of persons as to whom he is satisfied, by information received from those by whom they have been previously

treated, that they must be regarded as incurable. In all such cases the main object must be to keep the supply of the drug within the limits of what is strictly necessary. The practitioner must, therefore, see the patient sufficiently often to maintain such observation of his condition as is necessary for justifying the treatment.

The report then states that if the patient is going to be out of touch with the doctor, as on a trip, only a minimum supply should be made available to him and the patient should be referred to another doctor for any continuing care.

Here you have a good illustration of what I characterized as the illogical British way of making perfectly good sense. The regulation which I quoted to you initially, which states strongly that the doctor cannot prescribe for other than medical purposes and not to an addict for the gratification of an addiction, is still there, is still a perfectly good law in Great Britain. But right after it, appended as a part of the official memorandum distributed by the Home Office, is language I have quoted you from the Rolleston Committee Report, printed in full, depicting the duties of doctors and dentists under the Dangerous Drugs Act and Regulations. The regulations set up the principle, and then the quite informative instructions from the Rolleston committee establish the limit of the authority of the British medical profession in dealing with addicted persons.

To summarize, there are three instances in which a British doctor can and does prescribe drugs for an addict: first, in the course of a gradual withdrawal treatment in an effort to cure the addict; second, where after a prolonged attempt to cure, he finds that the drug cannot be withdrawn without disastrous consequences to the patient; and, third, where he concludes that the patient can live a useful and normal life on a drug regime and cannot do so without the drug. Of course, he keeps the Home Office apprised of the basis for his treatment in every case.

The result of this difference in interpretation of their law is that British police activity is on a much smaller scale than ours. It is aimed principally at helping the medical profession maintain control of the problem. It is aimed at compelling the addict toward instead of away from the medical profession. A further example of this intention is revealed in another Dangerous Drug Regulation, on possession. Possession, except under authority of the act, is an offense under the act, and in the exception which gives permission to possess drugs without violating the act there is this proviso:

> . . . that a person supplied with a drug or preparation by, or upon a prescription given by, a medical practitioner shall not be deemed to be a person generally authorized to be in possession of the drug or preparation if he was then being supplied with a drug or preparation by, or on a prescription given by, another medical practitioner in the course of treatment, and did not disclose the fact to the first-mentioned medical practitioner before the supply by him or on his prescription (*184*).

In effect, there is created an offense which can be committed only by the addicted person or user of the drug, the offense of defrauding one doctor by applying to him as a patient for the prescription of narcotics when in fact the patient is under the care of and receiving drugs from another doctor. This is the offense that accounts for as many as half of the prosecutions instituted in Great Britain for violations in the manufactured-drug category.

Local police departments in the United Kingdom each assign a few men to the enforcement of the Dangerous Drug law. There are about 20 at Scotland Yard, the metropolitan police force for London, 6 or 8 in other large cities like Manchester and Liverpool, and 1 or 2 in the smaller cities. These police officers inspect pharmacy records. They keep in close touch with pharmacists, keep track of their prescription practices and records, and in this way can see if a doctor begins to provide a suspicious number of prescriptions, or if one patient is receiving an unusual amount of narcotic drugs. They make reports back to the key control unit, which is the Dangerous Drug Branch in the Home Office. The Home Office, again illogically, is not an enforcement agency at all, but it has half a dozen inspectors and a chief inspector who receive these reports from the police and keep the central records. It is this Dangerous Drug Branch in the Home Office which receives, by voluntary cooperation of the medical profession—doublechecked by this watch on prescriptions—information as to each individual addict under treatment. Doctors are urged to advise the Home Office when they encounter a case where lengthy narcotic drug treatment is indicated. If they don't send in the information, it is picked up anyway when the prescriptions begin to pile up.

This small narcotics squad in each city handles alleged offenses against the act, and makes investigations, but it does not ordinarily approach the medical profession at all. If some question about a doctor arises, the police report back to the Dangerous Drugs Branch, the Dangerous Drugs Branch refers the matter to the Ministry of Health, and a regional health inspector or a member of the local medical board will call on the doctor and discuss whatever the problem is. The police work is good enough, the vigilance of these squads is keen enough, and the activities of the Home Office inspectors are comprehensive enough, so that it seems quite safe to conclude that there is not a large undetected body of addiction, or a group of addicts, in Great Britain. Their authorities think there are a few people who have means to supply themselves privately, but not a significant number. They believe that any new addict, except under very unusual circumstances, would come to their attention through one of these detection sources within a matter of 6 months.

In all the countries that I am going to touch on, and in Great Britain and in the United States as well, addiction within the medical profession including related fields like pharmacy, nursing, and dentistry—among people who have access to drugs—is a considerable problem and a much higher percentage problem than in the general population. But in England,

if a doctor becomes an addict and puts himself in the care of another doctor, he is not likely to have any difficulties; providing he becomes, in other words, a *bona fide* patient within the system. If he does not and he gets into trouble with the authorities through abusing his own prerogatives, he may be deprived of his right to prescribe drugs, but not of his right otherwise to practice. Again, the Dangerous Drugs Branch administers that control. If they impose sanctions upon a doctor, his name is placed on a list (there are about 50 doctors in the United Kingdom at this time on that list) circulated to pharmacists and to the drug officers and inspectors, making it impossible for that doctor to prescribe narcotic drugs; his prescriptions will not be honored.

The 1920 regulations provided for a special medical tribunal which could be set up to try serious offenders among doctors under the Dangerous Drugs Act—again, I imagine, anticipating the possible emergence of a grave problem with what I have characterized as the "script doctor." No medical tribunal was ever convened, and this provision has never been invoked. It was dropped from the 1953 regulations because it seemed meaningless—there was no need for it.

Again I signal the caution in making any comparison, that there are a good many relevant differences between our own national community and the United Kingdom. But making all due allowances for differences, I reiterate that this British experience is one of the most worthwhile, and perhaps most impressive, sources of experience and guidance to which we may address ourselves in considering our problem in the United States.

Now, a quick look elsewhere based on my own observations and interviews with officials in all countries I shall mention except Russia and China. From the historical point of view, the picture in most western European countries is essentially the same: before World War I there were moderate efforts at regulating traffic in these drugs; after World War I, about the time of our Harrison Act and the British Act in the early 1920's, stronger legislation aimed at control of the traffic was adopted. In each country the general pattern is substantially the same: control on imports, a licensing system, control on manufacture, more or less control of prescriptions, and, in some cases, control of the prescribing practices of the medical profession.

In Denmark, the authorities believe there are 300 or 400 addicts in their population of around 4 million. They have a licensing and record system. They say that their problem is largely concentrated in Copenhagan and has arisen mostly because of the very loose prescription practices of a small number of doctors. Until 1955 there was no formal sanction to control prescribing by doctors. At that time they promulgated a new act and a new set of regulations (39), which gave the Board of Public Health very broad power to control prescription and distribution at the retail end of the drug traffic. Under these new regulations, they created a special committee of doctors in Copenhagen to which a medical doctor may address himself if he has a case for which he thinks a stabilizing regime of narcotics is neces-

sary. The special committee considers the facts in the individual case and then may give authority to the doctor to maintain the patient on a stabilizing regime. The Danes have only come to this degree of control in 1955. They profess to be more or less emulating the British system with their new policy of allowing a stabilizing regime under control.

In Sweden there are 500 to 600 addicts in a population of about 7 million. Again we find the same pattern of control at all levels. The main enforcement is through the pharmacist, who is a public functionary under their Health Act, and a man of considerable standing. Should a doctor get out of line in his prescribing practices, his authority to write prescriptions is limited to one or two of these pharmacists. Through this method of control, the doctor's practice is recorded. Stabilizing regimes are not permitted in Sweden and their authorities say there is a small black market. Addicts can be committed under a medical order to detoxification treatment in Swedish mental health hospitals. There is no considerable problem, but I would say that the regulatory lines are a little tighter in Sweden than they are in Denmark (*207*).

In Norway, similarly, there are about 700 addicts in a total population of about 4 million. Norwegian controls have been very lax at the medical end, the prescribing end, until a few years ago. A doctor could issue a repeat prescription, refillable as many times as the patient wished to present it, for narcotic drugs. The Ministry of Health, somewhat concerned with the recent increase in addiction—again, in city areas, principally Oslo—has recently issued new regulations which require either the doctor or the Health Ministry inspectors to report all addicts who are under withdrawal treatment (*154*). Under the new procedure, the Ministry of Health issues a bulletin to all doctors and pharmacists specifically naming each addict. The medical doctor in charge has complete control of the withdrawal treatment inasmuch as the addict so listed can receive specified prescriptions from only one source. Addicts may be treated in the Norwegian mental hospitals, but there is no provision for involuntary commitment. They have 10 to 15 medical doctors a year becoming addicted. This is a problem which their Health Ministry deals with by pressures on the doctors but not by vigorous sanctions.

They had an interesting experience in Norway when the promulgation of these more severe regulations was under consideration. A number of reputable Norwegian citizens came to talk with the Ministry of Health, disclosing that they were addicted and that they were very much afraid that if a body of repressive regulations were adopted, their position in the community would be jeopardized. This was an expression which had considerable weight with the Ministry of Health.

In Belgium there is a much closer control on doctors' records and the prescriptions filled by pharmacists. There are nine inspectors in the field who watch the records very carefully. Formerly, if a doctor were detected prescribing excessive amounts of narcotics, including any sustaining regime

to an addict, the matter was referred immediately to the Department of Justice where criminal prosecution was initiated. Within the last 5 or 6 years, the Ministry of Health has changed this practice, so that complaints against doctors are brought to the attention of one of the nine *Commissiones Médicales Provinciales.* In each of the nine provinces there is one of these *Commissions,* composed of doctors and local health authorities. The regional inspector for each province is also a member of his provincial *Commission.* Complaints are taken there. A doctor may be haled before this *Commission* and his problem discussed with him. If he remains adamant, his offense can then be referred to a Provincial Medical Board, which has authority to impose any censure up to and including suspension of his right to practice medicine. But he is no longer likely to be prosecuted as a criminal.

Under present regulations, a medical doctor may apply to the *Commissiones Médicales Provinciales* for authority to put an addicted person on a stabilizing dose; but this is a provision, written into the regulations, which has not been much invoked. It would be possible for the medical profession to prescribe for addicts in Belgium by following this procedure, but in fact the right has not been greatly exercised.

Addiction itself is not a crime in Belgium, but there is some black market activity. The Department of Justice sometimes uses threat of conviction for petty offenses to compel addicts to submit to voluntary treatment in the Belgian hospitals. But numerically the number of people undergoing this kind of treatment at any one time is small, 10 to 25.

Italy has had controls for some 50 years. Italian health authorities believe that today there may be a few hundred addicts in Italy. Their recollection is that approximately 100 medical doctors, in the 50 years of their Drug Act, have become addicted and have been convicted for violations of the control laws. The pattern of control in Italy is similar to the others: licensing, record requirements, and a check on prescriptions at all levels. Italy, too, has recently enacted (in 1954) a considerably tighter law under which the provincial health officer in each of its 92 provinces is made responsible for the enforcement of all drug laws and the inspection of pharmacies and prescriptions (*98*). The police departments have been involved through a central narcotics bureau so that local police are integrated into the central agency for closer inspection and supervision of narcotics. The new act contains harsh penalties, including, I believe, the first mandatory minimum sentences in Europe. Major violations of the new Italian act carry sentences ranging from 3 to 8 years and fines of 30,000 to 4 million lira.

Italy has several ways of keeping close control over narcotic drug traffic. There are only 15,000 licensed pharmacists in the country. This number is fixed by regulation so that there is a great deal of competition to obtain a license as a pharmacist. This means that authorities can hold the sanction of withdrawing the pharmacist's license. In this way they place upon the pharmacist a burden of identifying either doctors or addicts who arouse

his suspicion by their prescription practices. The new statute also requires doctors to identify addicted persons who come to their attention, and it specifies punishment, with fines up to 50,000 lira for the first offense, for failure of a doctor to do so. The penalty for subsequent offenses is 1 year imprisonment and suspension of the doctor's license to practice medicine. There are doubts about the effectiveness of this form of control, but the Italians have obviously moved into an era of much more vigorous enforcement. The police have authority to put an addict forthwith into a hospital for observation and detoxification, though in practice, they say they usually do not do this. Instead, they let him go through "cold turkey" (abrupt total withdrawal) in prison. They have found this to be a considerable deterrent in itself.

Under the law in Italy, there is a legal presumption of intent to sell on being caught in possession of any considerable amount of narcotic drugs. They obtain quite a number of direct criminal prosecutions of addicted persons, as peddlers, based on this presumption of intent to sell. There is a statutory provision for a special medical commission which could find an addict to be incurable and thereupon permit him to be put on a stabilizing dose. But this is seldom invoked. Italian authorities say that their biggest problem has actually been that of illicit processing and transshipment, principally of heroin for the American market. Part of the intensification of their police activity is to cooperate with American authorities in dealing with the substantial problem of illicit exportation from Italy into the narcotic drug traffic of this country.

Switzerland is probably the freest country in Europe with respect to controls affecting the distribution of narcotic drugs. Doctors there are authorized under the law to possess and dispense drugs without restrictions, except in a few Cantons where local regulations apply. As of 1954, Switzerland had 109 known addicts—in a population of 5 million. Only eight violations of her federal narcotics laws were prosecuted in that year. The doctors themselves have legal authority to approach public officials for assistance on behalf of a patient. Doctors who find that a patient is addicted to the point where he is endangering his own welfare, or that of his family or community, can approach Cantonal authorities who will then provide hospitalization, or take over, after the doctor has decided that intrevention by the public authorities is necessary (*208*).

From the time of the 1917 Revolution in Russia until a few years ago, the U.S.S.R. reported annually to the League of Nations, and subsequently to the United Nations, in the same phrasing: "The social evil of drug addiction has been eliminated in the U.S.S.R. as a result of the fundamental economic and social reforms of 1917 and the continuing rise in the well-being of workers." Just no problem to report. Then in 1957, they reported on regulations which they had been obliged to adopt (*219*). There is now evidence of considerable concern about narcotic drug addiction problems. The regulations require medical and pharmaceutical establishments to report all drug addicts to the Health Ministry, urge medical practitioners to

avoid prescribing drugs when not absolutely necessary, and conclude with the following pronouncement: "The vicious practice of giving drug addicts prescriptions enabling them to obtain drugs shall be prohibited."

Finally, a few words about the Republic of China. In 1955, invoking national emergency powers, the Chiang Kai-shek government in Formosa decreed that all addicts on Formosa must within 1 month register with the police, and must undertake to cure themselves, at their own expense, within 6 months (*181*). If they comply with this decree, they are not found guilty of any offense under the regulations. But any addict who fails to cure himself within the prescribed 6-month period is punished for being a drug user. For the first offense he would get 3 to 7 years' imprisonment (1 to 3 years for marihuana users); the penalty increases by two-thirds for a second offense; on a third relapse, the penalty is death. For the cultivation of opium poppies or the manufacture, sale, or transportation of opium, or any opiate derivative, the penalty is death—or life imprisonment or death, at the court's discretion, if the offense involves only marihuana. Other penalties include: trafficking in poppyseed, 7 years to life; dealing in the paraphernalia of addiction, 1 to 7 years; possession of drugs with intent to sell, 10 years to life; and possession of poppyseeds, not less than 5 years. Any government official committing or condoning any such offense is liable to death penalty. This Chinese regulation concludes:

> The suppression of narcotic drugs shall be completed within 1 year from the date of the promulgation of these rules.

DISCUSSION

Ploscowe: Several points which emanate from Mr. King's discussion I would like to leave with you. First, it is apparent that in those countries which have a civilization similar to our own, somehow the drug addict in one form or another is still a public health problem and a public health responsibility rather than the responsibility of the police officer and the jailer.

Second, consider this extraordinary difference in development, from the point of view of law enforcement, between the English and the Americans who started with similar rules and similar regulations. You might wonder what is the trouble with our American lawyers, but first remember that in the Harrison Act itself there appears the exception for *bona fide* medical practice. Now what has been wrong with the medical profession which over the years has failed to lay down the standards of what is *bona fide* medical practice in dealing with the narcotic addict? This is one of the fundamental problems to which a symposium of this kind has to address itself. This, of course, was one of the major recommendations I made in the report I wrote after analyzing the law; namely, that this was an opportunity for the medical profession to lay down criteria of what is acceptable *bona fide* medical practice, insofar as the addict is concerned, to restore the addict to a state of mental health.

METHODS OF TREATMENT AND MANAGEMENT OF DRUG ADDICTION

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The current methods of treatment and management of drug addicts in both the Eastern and Western cultures are fraught with paradoxes and confusion. We have greatly increased our knowledge since beginning efforts at international and national control in the early part of this century; we have learned much about the pharmacological action of narcotics, from the bedside and the laboratory; and we know a little more about the basis and causes of addiction.

Most countries, either by law or by interpretation of their law, subscribe to the World Health Organization definition of addiction. This, in brief, states that an addict is one who has lost his power of self-control in relation to the use of a drug. Some countries have facilities for the voluntary or compulsory treatment of addicts. This adds up to a general recognition either by law or general consent that the orthodox principle of free will no longer operates once a person starts using narcotic drugs, and that the addict is in need of treatment. This would strongly imply that a disease or illness exists. We further emphasize this conception by speaking of curing addiction.

But, how is a narcotic addict handled in our society? We have laws on our State books authorizing his civil commitment and treatment in mental hospitals, yet the addict is rarely the beneficiary of these laws. More often he is put in jail or in the penitentiary for simultaneous treatment and punishment for some law violation. *Addiction itself is not a crime.* Only the possession of the drugs, needles, or syringes, or the selling of narcotics to maintain addiction is a crime. The penalties we exact appear incongruous in light of the recognition in U.S. law that the addict is one who has lost the power of self-control in relation to the use of drugs.

Despite scientific evidence that narcotics actually alter the physiology and chemistry of the nervous system, there are some physicians who withhold drugs from the addict during withdrawal. The reasoning of some is that the individual became addicted through his own volition; they ask why should they help him with drugs? Others resort to sophistry such as

that of a well-known American psychiatrist who quoted the Bible to me, *Matthew 12:26,* "And if Satan cast out Satan, he is divided against himself."

Those who have made a study of addiction ponder this confusion. Discussions with many people experienced in dealing with the addict and addiction in many parts of the world have convinced me that much of the confusion lies in a failure to comprehend the wide variety of etiological factors involved in drug addiction. Everyone coming into contact with addiction problems soon develops an attitude towards addicts and addiction. This attitude may be based on a comprehensive study of the many facets, but more often it is apt to be based on a one-sided, narrow approach. The classical story of the blind men describing the elephant is *à propos.*

While other speakers will deal in greater detail with the pharmacology and sociology of addiction, it is necessary, in order to provide a background, briefly to present a broad review of current knowledge in these areas as well as in psychiatry. I do not presume to have an encyclopedic knowledge of addiction, but I will summarize current knowledge emerging from the consensus of those most expert in this field. I will borrow heavily from the World Health Organization Technical Report, published in 1957, a report of a study group of which I was a member (*240*).

Let me pose a question: Is there an innate common denominator defect in narcotic drug addicts which makes them different from nonaddicts? Is there an innate sensitivity in the biological makeup of some individuals which makes them more susceptible than others to drugs? Numerous theories have been set forth in support of this thesis, but none has held up under careful scientific examination. The variables are so numerous, one rapidly concludes that it is impossible to make a clear-cut differentiation. The preponderance of evidence seems to indicate that those who become addicts have severe psychological problems (*55, 109, 230, 240*). One of the chief effects of narcotic drugs is, of course, to reduce pain and to raise the threshold of anticipation to pain. In this process the whole chemistry of the nervous system is affected from the brain to the simplest reflex and pain receptor. The net result is a depression of nervous system activity. Studies on animals and man in whom the spinal cord has been severed have clearly demonstrated the ubiquitousness of this action (*225, 231*). Drug addiction is, then, not just a state of mind but rather an alteration in the operating mechanisms of the entire nervous system. Studies have also shown that there is little difference between addicts and nonaddicts as far as the physiological reaction to narcotics is concerned. In brief, any man can become physiologically addicted to narcotics (*229*).

How then does the addict differ from the nonaddicts? Individuals seem psychologically to respond differently to narcotics—some like, whereas others dislike, the effects of narcotics. Addicts enjoy these effects and seek to repeat them (*110*). Assuming for the moment that the common denominator among addicts is their liking of the drug effects, is this a sufficient basis

for explaining the cause of addiction? No. We must know more about what these effects mean to addiction susceptible persons as individuals.

To the person suffering from a painful disease, such as arthritis, narcotics provide relief. However, he may be equally comfortable if another nonnarcotic drug can be substituted. The addiction susceptible arthritic, on the other hand, finds in narcotics something which he values beyond the relief of physical pain. A study by Dr. Rayport of Lexington (*180*) indicates that a considerable number of addicts report that they were initially introduced to drugs in the course of an illness. After the disease subsides, drugs supply a source of pleasure that they wish to continue. They may resort to practically any means to satisfy this demand.

We are concerned with the people in our society who demand drugs when there is not a medical illness of sufficient severity to warrant narcotics. There are a number of these individuals and they pose a problem to the practicing physician. The majority of addicts, however, by whom society is bothered socially, legally, and medically are those to whom drugs have become a major factor in their social adjustment or failure in adjustment. Most of these people get their drugs from illegal sources, peddlers, etc., or through illegal methods such as forging prescriptions, going to several physicians, etc.

We have too little information about those who are introduced to drugs by people other than physicians. By exclusion, we are forced to conclude that they get drugs from other addicts or peddlers, or addict-peddlers. How much proselyting goes on in these groups we do not know. How much of this introduction to drugs stems from an active seeking out of drugs by the potential addicts is also still a subject for conjecture. We need to know more about addicts in relation to their initiation to narcotic drugs. Dr. Isidor Chein has conducted a very comprehensive study showing that the coming into contact with drugs by a potential addict is not a simple case of proselyting by the addict or peddler but that there are other factors (*23*).

There must be an interest in drugs on the part of the potential addict. This interest may be aroused through hearing others describe the effects of drugs, through wanting to emulate peers, or as a means of flaunting authority, parental or social, as well as many other factors. What are some of the reasons which lie behind this interest? Let us look at those who are in conflict with authority. People whose character development has suffered through unsatisfactory human relationships, poverty, unloving parents or parent surrogates, or a hostile social environment often feel intensely displeased with life. These people are among the more obvious antisocial types and fall into the broad social diagnostic category of delinquents. Superficially, their behavior is fairly similar and results in casual observers perceiving them all as cast in the same mold. More careful analysis, however, reveals that the aggressive hostility may be merely a coverup for deep feelings of insecurity, feelings of being unwanted, and of possessing no inner strength to meet the challenges of life. Under a shell of seeming indifference

manifested by many, there may be revealed a passive, dependent attitude toward society and no inner resources for coping or drive for dealing with life's problems. Constantly uncomfortable with themselves, drugs offer a way out of this dilemma through fantasy life which simply helps them step aside from real life. The popular term is "goofing off." Another type resembling those mentioned above, upon careful study, is revealed to be so severely disturbed and so lacking in self-identification that he is often on the edge of or in a frank psychosis. Drugs help him feel more comfortable in his struggle between the real and the unreal. There are as many more types as there are psychiatric diagnostic categories, yet many of them appear to have superficially similar characteristics.

What about criminal types? All addicts are popularly supposed to be criminals. It depends on how you define criminals. Do you mean by criminality anyone with a police record of law violation? Or do you wish to go deeper and discover what lies behind the crime? To be sure, drugs may be used by some aggressive, hostile people who consistently fight society, care little for their fellows, are unable to establish emotional attachments to others, and who have no fear of man nor love for other human beings. Narcotics seem to calm them. They get into less trouble when well supplied with drugs. More often the "criminal type" turns out to be a maladjusted, unhappy person who is basically scared of himself and the world and puts up a fighting "front." Careful analysis of his criminal record shows petty crimes of theft, shoplifting, and, if he belongs to a gang, sometimes more serious behavior. Drugs make him feel comfortable or, as he says, "normal." It is rare for a well-supplied addict to commit crimes of violence (*56, 108*).

There are a great many other reasons why people want and like the effects of drugs. Problems of sexual adjustment, inability to handle ordinary frustrations of everyday living, inability to cope with internal compulsions are only a few. For more detailed studies, you are referred to the works of Kolb, Felix, Wikler, Rasor, Raskin, Vogel, Nyswander, and many others (*55, 109, 144, 155, 178, 230*). By and large, these etiological factors cover the gamut within any race or culture, be it in the United States, Europe, Near East, Asia, or the Far East. The composition of the addict population varies considerably, depending upon social (including religious) attitudes of acceptance or rejection of addiction, the general health of the populace, the availability of drugs, and the form in which they are used. The number of medically ill persons using drugs tends to be proportionately greater in countries backward in medical and public health care and where poverty and disease are rife.

We have not mentioned other causative factors, such as quantities of drugs used, an element that affects management and treatment. Narcotics have the unfortuante characteristic of requiring increasing amounts to achieve the same initial effect; "tolerance" is the word. The extent of continuing intoxication is a factor of considerable importance in planning

treatment. A person who uses narcotics only once a day, or occasionally, or who is getting such a small amount mixed with adulterants that he has little, if any, physical dependence poses a different problem from the heavy repetitive user.

CIRCUMSTANCES OF TREATMENT

Having briefly touched on a few of the etiological factors, such as disease, poor character development, deep insecurities, passive dependence on others, poor self-identification, etc., an intimate knowledge of which is necessary in order to plan effective individual treatment, we must review other factors that confront us before we can develop a therapeutic program. We must consider the circumstances in which we undertake treatment.

First and foremost, illicit traffic must be kept to a minimum. The sharp reduction in addiction concurrent with the curtailment of illicit supplies due to shipping restrictions during World War II is strong evidence in support of this proposal. The lack of illicit drugs simplifies the treatment in that the source of temptation to relapse is reduced.

Circumstances in which treatment is provided include not only the social and cultural attitude but, more important, the legal attitude which is an outgrowth of those attitudes. Within the legal framework, there are a number of variables which change through the years. The stringency of enforcement of the laws, the attitudes of enforcement officers and of the courts are also conditioned by the changing social outlook. Moreover, tolerance of the medical profession toward addicts varies considerably within a given country.

Most countries have laws which limit narcotic drugs to use for medical and scientific purposes. But, as Mr. King has shown, there is considerable difference in the operation of these laws as they affect the addict, even among countries with similar statutes. The definition of medical use is of immediate pertinence. In general, it is agreed that drugs may be used to alleviate suffering from disease but that they should not be used to satisfy addiction. In the United States, the diseases in which narcotic drug use is considered medically appropriate are those causing severe debilitation and pain in their terminal stages. Most countries allow drugs to be used in the withdrawal phase of addiction, although some, notably Egypt, do not. In the United States, some physicians are entirely unwilling to determine the need for drugs in a supposed medical addict or to assist in his treatment under any circumstances. Some physicians will not prescribe drugs during withdrawal under the mistaken impression that they are coddling the addict. The use of drugs to conduct withdrawal outside of institutions is not recommended practice in the United States, although such outpatient treatment is frequently employed in several European countries. The practice in the United States rests upon the theory that the addict will not cooperate and will seek other sources of drugs while supposedly under the jurisdiction of his physician. No allowance is made for individual motivation, degree of

and length of drug use, skill of the physician, or the particular doctor-patient relationship.

Addicts in most countries, in certain sections of the United States, and in the U.S. hospitals for treatment of addicts can get treatment without jeopardy to their freedom. In certain other countries, and in some of the States in this country, laws for mandatory registration make the registered persons potential suspects and subject to police scrutiny. This is a hazard which some well-motivated addicts seeking treatment hesitate to venture. Where registration is with health officials, there is some circumvention by physicians for the sake of the anonymity of their patients. Where registration is with the police, circumvention by addicts is said to be more frequent. Circumvention is, of course, related to the discretion of the registration authority and the use that is made of the information toward affecting the liberty of the addict. Most States and many countries have voluntary addiction procedures whereby addicts, not under criminal indictment, may obtain treatment. Some of these States and countries also have voluntary commitment procedures which require the addict to be held until his treatment has been completed. Because of civil rights, there is some doubt as to the validity of detention of patients under such procedures.

Involuntary civil commitment was possible in at least 37 of the 48 States of the United States (*206*) and in several European countries, as in Germany and Denmark (*240*). There are a number of reasons why this procedure is not often used; among them being a reluctance on the part of mental hospital administrators to provide treatment for addicts or assign beds needed by patients suffering from more severe types of mental disorders.

Commitment under penal laws for offenses other than addiction *per se,* for the treatment of addiction, is provided in the United States at both Public Health Service Hospitals in Lexington and Fort Worth, and in certain State institutions. Several countries, notably Egypt, Greece, and France are developing similar facilities (*240*). Until recent years, most States and countries have not committed addicts under penal laws prohibiting addiction, but rather for other law violations, such as possession or sale of narcotics, possession of equipment for administering narcotics, or for crimes (theft, forgery, etc.) relating to addiction. Other countries do not provide any special treatment for addicts convicted under the penal code; however, there are special treatment center programs in Iran and Singapore which provide treatment for addicts convicted as such. A few States in the United States are now making laws classing addicts as offenders *per se.** In the District of Columbia there has been developed a combined civil and criminal commitment for convicted addicts. These laws provide for a comprehensive program of hospital treatment and aftercare community rehabilitation for a definite period of time.

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*A recent Supreme Court decision (*Robinson* v. *California,* No. 554, October term, 1961) has now ruled that the California law making addiction a misdemeanor is unconstitutional. This decision probably invalidates all other similar State laws.

Most programs are geared to mass treatment of large numbers of addicts without reference to their individual problems and needs. A few countries, notably England, provide no mandatory treatment for addicts but leave the program to the individual physician. Those States and countries that provide civil commitment procedures under mental health codes have a good mechanism for providing a variety of treatment plans geared to the individual needs of the addict patients. Most such codes permit the determination of hospitalization, parole, and rehospitalization in case of relapse to be left to the discretion of the physician in charge of the institution. Usually there are safeguards concerning the medical record and disclosure of the court record. However, addicts committed under penal laws are not afforded this latitude in management except in a very few States where indeterminate or indefinite sentencing procedures are used.

PRINCIPLES OF TREATMENT

A succinct summary of the guiding principles for treatment of drug addicts is set forth in the World Health Organization Bulletin (*240*):

> It cannot be too strongly emphasized that the first principle of the treatment of drug addicts is that they should be looked upon as patients, that is to say, treated medically and not punitively. Moreover, if effective and lasting results are to be obtained . . . treatment must be based upon a study of the individual personality. The main characteristic of treatment will therefore be its psychotherapeutic nature and it will not be fundamentally different from that used in the psychotherapeutic management of other personality problems. Such treatment should aim at giving the patient more insight into his problems, some understanding of the unrealistic character of his neurotic fears and wishes and a better judgment of situations, thus enabling him better to respond to the unavoidable stress of life.
>
> Although it will frequently be necessary to resort to coercion before the patient can be made to undergo treatment, as far as possible he should be allowed to make, or to feel he has made, a free decision, so that from the beginning some degree of cooperation may be obtained and treatment may be based on a sense of trust. This will be partly dependent, of course, on the prognostic category of the patient, the attitude of the surrounding society (which may assist in the motivation of the patient to obtain treatment), the propaganda value to results already obtained, and, of course, the attitude and judgment of the physician.
>
> There was complete agreement that the goal of treatment of the addict is to assist him to achieve a feeling of relative well-being and satisfaction and good interpersonal adjustment without drugs. It should be very clearly understood that the maintenance of drug addiction is not treatment. Nevertheless, under certain circumstances complete withdrawal of the drug of addiction might be deferred.

There are well-recognized, obvious medical conditions such as severe chronic or terminal illnesses, where continued administration of drugs is indicated. In addition, experience with the problems of addiction in several countries and newer knowledge of the psychology of addiction leads the medical profession to believe that in exceptional cases it is within the limits of good medical practice to administer drugs over continuing periods of time. In any case, the physician, recognizing the presence of addiction, should not embark upon continuation of the drug of addiction without having adequate previous consultation and periodic review with competent medical authority.

PROGRAMS OF TREATMENT

The medical treatment of the addict should be total and comprehensive. It should encompass the somatic, psychological, and social rehabilitation of the individual and should include three phases: preparation, withdrawal, and continued treatment.

The preparatory phase should include an assessment of the drug used, the length and degree of use, an inventory of the personality structure of the patient, and definition of his problems. A careful study of his family and social relationships may provide clues which must be weighed as to the effect on future planning and treatment. His motivations must be understood and a determination made as to the best means of channeling these to promote therapy. After careful evaluation of these factors, a plan should be prepared and discussed with the patient. This serves two purposes—it helps allay his anxiety and provides a stimulus to encourage recovery. The physician-patient relationship is most important and can have a profound effect on recovery.

The next stage, that of withdrawal, is in most instances a frighteningly uncomfortable process unless carried out with skill and understanding. At the risk of perpetuating the undue concern over withdrawal techniques that has bemused physicians for the last half century, perhaps a summary of some recent proposals would be of value. Hopefully, such a review will provide answers for those who lack knowledge, training, and experience in evaluation of addiction treatment. This statement by Kolb and Ossenfort in 1938 (*118*) is of value:

> The bulk of the literature on the treatment of drug addiction is concerned only with the withdrawal stage . . . Some of these methods are harmful . . . a large proportion are useless, and all are successful, provided the opiate is withdrawn and the treatment is not so strenuous as to kill the patient.

This does not gainsay necessity for a sympathetic, scientifically sound, humane procedure. We question the attitude of those few physicians who deny the addict benefit of current knowledge, and others not trained in medicine who aid and abet such physicians. Their attitude betrays a lack of understanding of the physiology and psychology of addiction. These

individuals would not withhold or condone withholding antibiotics from anyone who has pneumonia. The excuse of these physicians is anachronistic and includes such statements as, "We do not want to coddle the addict; it will teach him a lesson."

There is yet to be found a drug or treatment which will adequately substitute for a narcotic in the withdrawal phase of treatment of narcotic addiction. Reports of the effectiveness of the "tranquilizers" (the latest of new techniques), the revived use of electroshock, insulin shock, and barbiturates, to name a few, betray a lack of knowledge of the phenomena of physical dependence and the attendant withdrawal syndrome. The Study Group on Care and Treatment of Addicts of the World Health Organization (*240*) classified withdrawal regimes as follows:

> There are two general categories of withdrawal: (1) the gradual withdrawal of narcotics with varying degrees of rapidity, and (2) the abrupt withdrawal of narcotics.
>
> 1. The method of gradual withdrawal can be subdivided into:
>
> (a) the prolonged gradual withdrawal over a period of weeks or months, using the actual drug of addiction; supportive therapy may include such substances as barbiturates, bromides, scopolamine, hyoscyamus, atropine, and more recently chlorpromazine, reserpine, and meprobamate;
>
> (b) the rapid withdrawal of narcotics, which is usually accomplished in 7 to 14 days; supplemental therapy may include the above 1(a) substances;
>
> (c) the substitution for the drug of addiction of other narcotics, the withdrawal of which entails less severe symptoms than the withdrawal of the drug of original addiction.
>
> 2. The methods of abrupt withdrawal include:
>
> (a) abrupt cessation of the administration of narcotics or any other drug; supportive therapy, such as intravenous fluids, cardiovascular stimulants, etc., may be used in cases of severe collapse besides other therapeutic measures to provide relief of symptoms;
>
> (b) as above in 2(a), except that other nonnarcotic substances may be used, such as barbiturates, calcium compounds, scopolamine, hyoscyamus, chlorpromazine, reserpine, and meprobamate, the common feature of which is to mask the symptoms and signs of withdrawal;
>
> (c) as above in 2(a), except that electroshock or insulin shock is periodically induced (*240,* p. 9; see also Sakel; Thigpen et al.; Cerguetelli).

Other methods, including the so-called "masking treatment" which hides the symptoms of withdrawal without alleviating them, are potentially dangerous. The World Health Organization Study Group (*240*) said:

> With reference to the so-called "masking treatment", with, for instance, barbiturates, chlorpromazine, etc. . . . which often make the

withdrawal unnecessarily dangerous, particularly so in view of the relatively low risks involved in the methadone substitution technique—although these drugs may be useful after withdrawal from opiates has been completed, the Study Group also recognized that there are drugs on the market said to minimize the withdrawal symptoms in a miraculous way. For the cure of addicts "patented" treatments and medicines have also been brought out, which may include a variety of drugs of no or negligible specific therapeutic value. These methods have not been substantiated by carefully controlled scientific clinical experiment.

The gradual withdrawal technique using narcotics has a wide range of usefulness. In some countries, addicts are successfully withdrawn while in an outpatient status. The method can be used without elaborate equipment in a general hospital or in a prison. Most patients, no matter how well motivated, will do best under close supervision in a hospital or some other protected intramural setting. These circumstances prevent the unnecessary prolongation of withdrawal and keep the addict from obtaining clandestine drugs. As soon as possible after withdrawal, such measures as are needed should be started to alleviate any remediable somatic disease or abnormalities. At times the existence of certain diseases may properly delay or prolong withdrawal.

Most otherwise healthy patients will quickly regain their physical equilibrium after withdrawal. Food suddenly becomes very important, life looks brighter. This is a dangerous period in treatment. Many addicts falsely assume that the worst is over and will want to leave treatment under the delusion that they are "cured." Relapse is practically assured for any patient who follows this inclination. It is necessary that the physician immediately provide emotional support and begin the active phase of continuing treatment. This treatment may in exceptional cases be carried on outside of the hospital. Strong personal motivation is mandatory in such cases. Adjunctive assets, such as a job, family support, spiritual guidance, are of inestimable value. Many patients will need the intramural environment, however, for an extended period, weeks or even months, in order that they may undergo a period of self-reassessment and learn to live without drugs and without protection from drugs. Such programs should be flexible enough to allow for the individual to assume full responsibility for himself, when indicated.

The optimum intramural program should be psychiatrically oriented and should include the basic requisites of psychotherapy, useful vocational duties, retraining or learning of new skills. The therapeutic team concept as developed at Lexington, Fort Worth, and Riverside Hospital in New York combines excellent features. There are many possible variations; effectiveness will depend on the experience and skill of the team members. Similar programs exist in State hospitals and progressive penal institutions.

There is need for a variety of intramural programs designed to fit the individual characteristics and capacities of the patient. The World Health Organization Study Group (*240*) stated:

> It would seem advisable to provide a graded series of environmental conditions for treatment. The determination of the degree of security required in any given case should be left to the judgment of the physician. This grading process would extend from the maximum security of locked wards down through open wards, the "halfway house" (controlled or sheltered environment) in the community, to a controlled environment in the home, where, with the help of his private doctor or community public health officer, the former addict may finally return to self-supervision. The placing of the addict in any given step in this process would depend in some degree on the evaluation of several factors, such as his personality development, family identification, degree and extent of drug use and certain community attitudes. The placement should not depend only on his taking or not taking drugs, but should take into acount the whole situation. It should be made clear that no part of the above process implies penological coercion. . . . For certain cooperative addicts, as mentioned above, there should be provision for complete treatment outside as well as inside institutions. Newer knowledge of the psychology of human behavior, experience gained by physicians in treating addicts, and parallel experience with the treatment of other psychiatric disorders led the Study Group to agree that traditional concepts of treating the first and second phases of addiction in closed institutions only should not necessarily be followed in all cases. There should be provision, legal and otherwise, for the treatment in the home, physician's office, or outpatient clinic of properly selected cases, so judged by competent medical authority.

Noteworthy in the area of community rehabilitation programs are those at the Provident Hospital and Northwestern Clinics in Chicago, the Health Department Narcotic Clinic in Detroit, and the New York City Riverside Hospital Aftercare Clinic. In 1958, the National Institute of Mental Health of the Public Health Service established a demonstration social service program in New York City to provide liaison with community rehabilitation services for addicts discharged from Lexington. The California plan of a combined program for intramural and extramural treatment is of special interest. None of these programs, however, have had sufficient long-term experience under optimum circumstances to properly evaluate their results. I want to stress especially—*long-term under optimum circumstances.*

PROBLEMS OF RELAPSE

We have so far placed special emphasis on the intramural aspects of treatment. Dr. Pescor working at Lexington in 1938, and later the Public Health Service in some yet unpublished studies indicate that the length and circumstances of hospitalization, either as voluntary or penal com-

mitment, do not have a great bearing on rate of relapse (*170*). Part of the meaning of these observations has not been fully realized until recently. Unpublished studies at the Riverside Hospital in New York, as well as follow-up studies of Lexington patients discharged to New York, indicate an inverse correlation between the use and availability of aftercare, rehabilitative facilities, and the rate of relapse. Such problems as housing, jobs, and someone to discuss their problems with are of great significance. There is an obvious need for continuity of the rehabilitative program beyond the hospital period and into the community. The expression of the World Health Organization (*240*) is again pertinent:

> Since the bulk of the time of continued treatment will often be spent outside institutions, every effort should be made to enlist all community agencies, such as social service, family welfare, mental health clinics, vocational rehabilitation, employment services, etc., to provide and assist in community adjustment for the returning addict. It is in the community that addiction starts and it is in the community that the final phase of adjustment and adaptation should occur. In some cases group psychotherapy for the addict's family will be found to be necessary.

Earlier suggestions for civil commitment procedures would make possible longer-term supervision of the addict patient. Recently advocated in California and used in some communities is a program for checking on possible relapse of the treated addict after his return to the community. This calls for the use of a drug known as N-allyl-normorphine, known as nalorphine or by the trade name Nalline. This drug has the effect of immediately counteracting the action of morphine and precipitating the withdrawal syndrome in physically dependent patients (*227*). The subject must sign a release for this procedure. Since an overdose in a person well addicted can have serious results, the test should be carried out only by a skilled physician experienced in abstinence symptoms and in a hospital or outpatient clinic setting. Whereas this procedure may have possible value as a deterrent to relapse, it cannot substitute for or serve as a shortcut for adequate community rehabilitation techniques. Since Nalline first became known, we have been interested in the possibility of its use on a voluntary basis in a fashion not dissimilar to the use of "antibuse" by the alcoholic. The Nalline procedure needs further evaluation from a technical standpoint. It is expensive, because adequate medical personnel and safeguards are required.

I am personally disposed against the use of Nalline as an involuntary coercive measure to prevent relapse.

One of the last topics to be discussed under the heading of treatment is, paradoxically, no treatment. In brief, this would include the many plans for providing certain addicts with drugs after all other efforts to rehabilitate them have failed. Some countries allow this and claim that it works satisfactorily. Whether or not such a plan as that suggested by the New York

Academy of Medicine would work is pure conjecture. Whether such a plan would reduce the incidence of addiction by removing the addict who peddles drugs in order to sustain his own addiction is not possible to determine without a carefully controlled sociological study. I agree with the recommendations of the Report on Narcotic Addiction of the Council on Mental Health of the American Medical Association (*30*) in this regard:

> Clinic Plans.—In view of all of the available evidence at the present time it does not seem feasible to recommend the establishment of clinics for the supply of drugs to addicts. This is true for the Eggston resolution and the plan of the New York Academy of Medicine, even though there are many aspects of these plans that could be looked upon with favor. This opinion should be subject to frequent review in accordance with new scientific knowledge that may become available.
>
> Continued Study.—It is recommended that the American Medical Association continue to study the narcotic laws with the view of further clarification of the rights and duties of physicians and allied professional persons in the handling of addicts. The phrases in the current law ". . . in the course of professional practice only" and "prescription," remain vague and confusing, despite Supreme Court decisions. Regulations on dispensing drugs to addicts should be eased so that the patients can have a reasonable time to arrange their affairs prior to entering a hospital for treatment. The 1924 Resolution of the House of Delegates should be revised. Consideration should be given to broadening the resolution to include a plan endorsing regulations somewhat similar to those currently in force in England.

A final word on results of treatment here and abroad. In truth, we do not know the results except in a few instances. Many former addicts disappear from view after a few years. My casual scrutiny of some of the yet unpublished preliminary figures developed in the New York Followup Study on Lexington dischargees indicates that after age 30 the tendency to relapse decreases. We need a longitudinal study of the lifespan of many addicts over a period of 10 or more years to provide positive answers. The Public Health Service is currently engaged in such a project.

In conclusion, we need: (i) To provide for and take account of the problems of the individual addict, if we are to develop a satisfactory treatment program for him. (ii) To develop more extensive but not necessarily new facilities for the intramural treatment of addict patients. (iii) To expand and make available more adequate community rehabilitation programs similar to those in Detroit, Chicago, and Riverside Hospital in New York for such patients. (iv) To reappraise existing intramural programs as to their effectiveness. (v) To continue to examine and experiment with other methods of treatment under civil commitment procedures. (vi) To examine the possible inclusion of the personal physician in the treatment as suggested by the American Medical Association Council on Mental Health. Finally, (vii) to study in greater detail and in larger number the

life history of addicts and to evaluate the effects of treatment or lack thereof.

DISCUSSION

Ploscowe: It is quite apparent that we don't have to take the view that every addict ought to be chucked in jail and the key thrown away. There is a part of the praised report that Mr. Tompkins did not mention, mainly because he is concerned with sellers and not with addicts. That is the recommendation that because every narcotic addict is a potential source of infection he will transmit his desire for the drug to someone else, on the theory that misery loves company. Because of the possibility that somebody else may become addicted by association with the addict, every narcotic addict who is chronic and who can't be cured by institutionalization must be incarcerated for an indefinite period. In my first draft of this famous report, taking the figures of the Narcotics Bureau, I used the expression "we would have to set up concentration camps for 60,000 people." That is, there are 60,000 addicts who are apparently chronic. It is obvious from this very knowledgeable talk of Dr. Chapman that there are other alternatives.

THE REQUIREMENT FOR LAW ENFORCEMENT

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I am very proud to be here in such distinguished company, among so many of my colleagues who have been in the addiction and narcotic control area for many years. In connection with some of the speakers, I would have to be in best accord. As to some of the others, I would disagree. With one of the individuals particularly it's a matter of great distress that I should have to disagree with him in any respect, and that is with the venerated Dr. Kolb from whom I learned some of the first and best things that I have ever learned about the drug addiction problem. However, I know that some of my colleagues in the police profession here were greatly distressed at some of Dr. Kolb's observations. Those which Dr. Kolb mentioned from his personal knowledge illustrate one point that I ought to make with my colleagues in the law enforcement profession. That is, that when you get into the business of enforcing the law in this area, you must proceed with the greatest circumspection. One thing we all know, in law enforcement, as in medicine, when you make mistakes, the consequences are likely to be tragic.

I won't attempt to discuss some things that have been said. The question as to whether or not narcotic addiction is a sin is something perhaps for the Pope to pass on for some of us. The question of whether or not situations connected with narcotic traffic or narcotic control are legal or illegal are for the legislatures, expressing the wisdom of the people, to decide. Some of us can have our personal exceptions, but when a program is laid down, we ought to carry it out in the best conscience, and see that it is carried out. Anything verging on the side of foot-dragging should probably be designated by a worse name.

This is a symposium on the history of narcotic drug addiction problems. Read history, say the philosophers, read it and heed it, unless you wish to live through its mistakes. How true that is of the narcotic problem. How keenly it is brought home when we listen to latter-day pontification from many people whose acquaintance with this subject dates back only

to this decade. We are here, it has been said, to bring Terry and Pellens up to date. Let's be sure that we don't set them back for 25 years.

In the early 1890's reports of Treasury agents showed great concern over the smuggling into the United States of huge quantities of smoking opium, from factories in British Columbia, among other sources. So great was this influx and so much the difficulty in coping with it, that the Treasury surrendered to the dope traffic. Now, despite suggestions which have been made here which would indirectly bring about the same surrender, I hope we will never see another instance in which this great Government will adopt such a craven course. "To break up the smuggling racket"—and how contemporary that sounds today—the United States cut the duty on smoking opium in half, from $12 to $6 a pound. In 1895 the supervising Treasury agent complacently announced that while Canadian smuggling had fallen off, imports of smoking opium, legal duty paid, at the port of San Francisco had increased greatly, to 138,000 pounds of smoking opium, annually.

Read history and know history. Let us have some conception of what this problem represented to us before we started enforcing the law. Then, see just how much of it we're going to give away, if any. Mind you, this was smoking opium, not medical opium, but a poison designed for the lungs of America. You can call this a habit or what you want, or differentiate it from or compare it to alcohol and so on, but I will still say as a simple policeman who has walked the streets with these addicts that this stuff is a poison, and that people who sell it sell poison. Maybe aspirin is a poison, too, but opium is a poison and I reserve the right to call it a poison. And I think some of the medical people here who have tried to revive some of those fellows that got an overdose—who accidentally got some good heroin in these days of scarcities that law enforcement brings about—perhaps they recognized that they were dealing with a case of acute heroin poisoning.

Now, to go back, this was smoking opium on which a practical tax collector was interested in revenue only. Many of the people here today are living testimonials to the distance we have come from that callous concept of the responsibilities of a government to its people. I am confident that there will always be enough people of hard sense in this Government, like many in this group, like our great Commissioner of Narcotics, Mr. Harry J. Anslinger, who will not sell out the American people for the beguiling song, the siren song of "taking the profits out of the traffic." For what would it profit a country to change from our present system where the great risks in breaking the law have made some profit—very temporary profit often—for a few, on a thin trickle of dope. I wish there was a million dollars profit on a kilo of heroin, such high profit because the risks were so great. Do we want to change in a direction which might make for a smaller unit profit on a larger volume? Dr. Treadway said we have this traffic because somebody wanted profit. Should we substitute for the little Mafia of today, or something of that kind, the huge British East India Co. of yesteryear, or some

counterpart of that? Why do we talk about profits? Why should we not be concerned instead for that vast group of potential new addicts, the presently uncontaminated thousands who inevitably would be the victims of freely available drugs if we "took the profit out of the dope traffic."

There is much confusion respecting the progress or lack of it in this country in controlling the narcotic menace. As I see it, great strides have been made in reducing the traffic. Estimates which I believe credible place the narcotic incidence in this country, prior to the early 1920's, at 1 addict in 400, or 1 in 500. We saw a steady decline in addiction throughout the 1920's and into the late 1930's. In the 1930's the average age of addicts coming into Lexington was roughly 1 year older every year. In effect, we had the problem licked.

When World War II came along, the traffic was further circumscribed and plummeted to an irreducible minimum. Of course, war does what you try to do with complete law enforcement. I recall that shortly after the war, a congressional committee was seriously considering that Lexington Hospital be closed. The Bureau of Narcotics opposed this move because we anticipated a postwar rise in addiction. The traffic and addiction remained at rock bottom, a mere trickle, until 2 or 3 years after World War II. Then it skyrocketed. That is the point at which some of our too articulate friends here think the show began. They really came in at the intermission. The rocket didn't go back to the incidence of the 1920's. In the early 1950's it burned out at a ratio of less than 1 addict in 3,000, or less than one-sixth of our earlier addiction rate, and it is orbiting in a slowly descending pattern now. To change the figure of speech, the graph of addiction trend in this country shows essentially a ski-jump profile from the 1920's down to the 1940's, when it hits bottom. Then there is the beginning of a rise in 1946–47, then up and a leveling off about 1951–52, and we hope now a steady decline.

But now let us point up a difference. This is the pattern for the country as a whole. However, in vast areas of the United States, narcotic addiction did not reappear in any consequential amount. Having got on top of the problem there we do not think that we will have any recurrence as long as realistic law enforcement continues to prevail in those areas. This is small comfort, of course, except as an example, to those spotty areas where drug addiction is far above the national average. Here a multitude of social and economic factors cloud the picture. The problem is so large in some places that its volume contributes to a paralysis in its control. But it is significant to me that in those very areas, we have not yet had an effective law enforcement program or a comprehensive addict control and rehabilitation program in operation.

People question our figures, but I think they are good approximations; they certainly are the best figures available and they are the only ones I have ever seen which have any relation to reality. They have often been validated by independent surveys. The figures are provided by the same

sort of process by which we obtain police statistics generally. And we have other criteria. We work in the narcotic underworld. The salesman out in the territory often knows whether business is good or bad before it is reflected in the boss's books. That's something unique for narcotic policemen to remember. You are the only people that know a narcotic addict as a narcotic addict in a free environment. Be students of the problem and maintain your right to know what you know.

In 1920 an ounce of pure morphine or heroin cost $12 to $20 in the illicit traffic. In the middle 1930's the same drugs cost $80 to $100 an ounce. Today they cost $500 to $1,000 an ounce. In 1920 plush opium-smoking joints could be found in almost any large city in the country. These have completely disappeared. In 1920 many addicts, I would say most of them, had heavy habits—5, 10, 15, 20 grains a day. Many of them used cocaine to offset the effects of this huge intake. Many of them just used cocaine. Cocaine has disappeared as a consequential drug. In 1930 the habits were much lighter. In 1937 and 1938 we had gotten to a point of extreme dilution of heroin and very light habits. I mention that period because that is the last representative prewar year. Army figures for World War II show a dramatic fall in addicts rejected compared to World War I. I would suggest that it is a long time since the hospital at Lexington has seen any sizeable influx of persons with real habits. My information is that 9 out of 10 of our users of diluted heroin mixtures in Chicago fail to show anything except the most mild symptoms on withdrawal. The extent of the distress is "a gape and a sweat" to use the vernacular.

These and similar considerations should convince anyone capable of being convinced that we have made great strides in overcoming the narcotic evil in this country. But people are going up and down the land saying that we have failed. Knock a stave out of this control barrel, they say, do something else, any kind of a substitute, but something easy, something that won't hurt people, something that won't make law enforcement officers uncomfortable, won't make judges uncomfortable, won't make addicts uncomfortable, won't make drug peddlers uncomfortable—let's make the whole program something comfortable.

I think we take too much time from constructive discussion of the narcotic problem for a purposeless working-over of what has been called an "English system." With a technique reminiscent of the Hitler "Big Lie," a few people have assiduously spread through the length and breadth of this land an impression that in England there is some magic afoot which is the key to the narcotic addiction and the narcotic control problem. That is the cruelest thing, because they are offering to people who want something soft the allegation that there is something soft. There isn't anything soft and there are lots of things about life that aren't soft. Let's try to lay that "English system" ghost once and for all.

Actually, as was thoroughly pointed out, the English system of narcotic law control is not too different from our own. The United Kingdom sub-

scribes to the same international conventions and agreements that we do. Their system of law enforcement doesn't differ too greatly from that of this country and Canada. I read from material presented by Mr. King: "In no circumstances may dangerous drugs be used for any other purpose than that of ministering to the strictly medical or dental needs of his patients. The continued supply of dangerous drugs to a patient solely for the gratification of addiction is not regarded as 'medical need.' " The fine print, if there is any fine print, has also been read and that is: "Where it has been similarly demonstrated that the patient, while capable of leading a useful and relatively normal life when a certain minimum dose is regularly administered, becomes incapable of this when the drug is entirely discontinued." Now, whether there really are such people is certainly a matter for debate. I have seen lots and lots of narcotic addicts. If there are such people, their number is so inconsequential that to abandon any elements of our program in that direction would be simply foolish in my opinion.

But isn't this all beside the point? One can be relatively ignorant of law enforcement and still know that what will produce good law enforcement for England will not necessarily produce good law enforcement in the United States of America. We read in the contemporary newspapers that some of the English policemen are even thinking of carrying guns, but they don't. There were 38 homicides in the London metropolitan area last year. I suppose that covers about 10 million people. In Chicago, there were 131 homicides for the first half of the year, an annual rate of 262. This point could be labored in a comparison between the countries of practically every type of crime. When this argument has come up, I have heard active policemen describe it a little more elementarily; if an English bobby—for whom we all have the greatest respect—with his truncheon and helmet came into some of our metropolitan cities, his hat certainly would be kicked down the gutter as a football and they would have to call for a shotgun squad from headquarters to save his neck. That would happen in sections of the country not too far from where we are holding this meeting. One should know the climate in which a garment is to be worn before he considers the kind and quality of cloth and how to cut it.

Despite our possibly tighter interpretation of the same fundamental philosophy, we nevertheless as late as the 1930's suffered from the outrages of a Ratigan who under the guise of practicing medicine sold in 1 year 400,000 doses in office-administered shots of morphine to addicts in Seattle, several times as much as all the other doctors and all the hospitals in that city dispensed in the same time. Ultimately, of course, he did 7 years in the penitentiary. The most persistent promoter of the "English system" myth in this country has defended Ratigan and has referred to him as a hero; I think he didn't know when he said that what the full facts about Mr. Ratigan really were.

Now, perhaps taking advantage of a slightly more complacent interpretation in England and despite the usual rigid English conformity to the law, that country recently had its John Bodkin Adams. According to press accounts, Dr. Adams was investigated when deaths among his patients became a public scandal. He was acquitted of murder, perhaps for the very good reason that he may not have been guilty, perhaps again only because there were incomprehensible lapses in the investigation of his case. In any event, he later pleaded guilty to violations of the Dangerous Drug laws and was barred from practice. I don't know whether I would, if I were in the administration there, after the kind of investigation that was made, actually have felt free to proceed further against the doctor. Anyway, the ironical thing about the "English system" is that Dr. Adams' narcotic deviations were not discovered until there was a charge of murder. Adams apparently made many heroin addicts, most of whom I would venture to suggest don't appear in the English addiction statistics, but in the mortality tables. So, it may well be that the better incidence ratio in the British Isles is not due to any superiority in their system or magic in their medicine. Is it not likely that it is in spite of the small differences in the systems rather than because of these? Did it ever occur to our friends that people, countries, and cultures differ? In its March 17, 1958 issue, by a masterpiece of mistiming, *Time Magazine* ran a story suggesting that Irish-Americans, like me, were about 50 times more susceptible to becoming drunkards than were Jewish-Americans. When I read that my hand shook so that I spilled my Irish coffee.

Let me try to ventilate the fog surrounding this "English system" with one more blast of the cold air of commonsense and then I am done with it. There are more opium-smoking and hashish violations in the United Kingdom than there are in this country. When we informally query our English contemporaries, this situation is dismissed with the observation, "Well, this applies only to the colored or Chinese population." We wish we could dismiss our problem so lightly. Don't misunderstand me; we have a colored characteristic in our problem now, but it's new; 20 years ago it was white and Chinese. The report of the United Nations Commission on Narcotic Drugs for the April–May 1957 session refers to 17,697 narcotic arrests in Hong Kong, 12,787 related to heroin. These narcotic arrests constitute about half as many as for the whole United States. Reports on Singapore are of a similar tenor. What is the significance of this? Nothing more than the all-important and inescapable fact that these are Crown Colonies of Great Britain, governmental entities ruled from Whitehall and the direct responsibility of the Queen's ministers—the "English system." Where do you apply your "English system"? To whom do you apply your "English system"? Under what circumstances do you apply your "English system"? It all depends on circumstances. Canada has the same rate of addiction as the United States, generally speaking. Dr. Paul Martin, Minister of Health, stated to a Senate committee that he has

been unable to find any difference between the British and Canadian narcotic laws.

Let's remember this about the United States of America: Water runs downhill here! Mr. King went to Denmark, I presume at some expense, to give us the narcotic picture there. We could have saved some money because if we wanted to get an impression, a good old Scandinavian picture, he could have gone to Minnesota. I would bet a nice dinner check that there are more addicted physicians in Copenhagen than there are in Minneapolis.

Minnesota is a remarkable demonstration of the American system of narcotic law enforcement as supported by Scandinavians. We once had a real narcotic traffic in Minnesota. We had that from the beginning of the enforcement of the narcotic laws. The Twin Cities were the dope capitals of the Northwest as far as Utah, even into Seattle, Omaha, Kansas City, Wisconsin, and all the smaller towns. Once in a while we even sent stuff to Chicago. We had a direct connection with the Newman Brothers of New York. Only somebody who knows the narcotic history that we're reviewing here would know the significance of what I am talking about. About 1937 we had a Federal District Judge named Gunnar H. Nordbye. We also had the king of the narcotic underworld up there, Big Bill Hildebrandt. We rounded up Big Bill and about 15 or 20 of his cohorts and Judge Nordbye lined them up. He started off with Big Bill, and gave him to Jim Bennett for 21 years. Hildebrandt did try to run a little bit of a finesse. He got a fellow named Tommy Nelson to come over from Detroit to pick up a few of his more select customers. Somebody found out about this, and Judge Bell, just to follow the good Scandinavian example, batted Nelson for 15 years and gave him 15 more to do on something else. There has not been any organized heroin traffic in the Twin Cities capable of recognition as such since that time. That is the American system, Scandinavian applied.

There was a reference to the Italian system. We had to send American narcotic agents to demonstrate to the Italian Government that there was being diverted and sold to their people as well as ours some 200 kilos annually of heroin. The Italian system has been a whole lot better since we gave them some advice.

We represent here many disciplines, many points of view. We all look at a subject through our own particular keyhole. I think the most difficult thing we have in this field is to reconcile the various points of view, to weigh the relative importance of the various parts of the problem so as to arrive at a correct and undistorted picture. Usually I advance my opinion that the solution of the narcotic problem in this country is primarily one of law enforcement. Well, of course, I'm a policeman; what would you expect from a policeman? Obviously, we must have help from the many other quarters represented here. Obviously, we have had the most dedicated help from the wonderful people who are our hosts here. I don't know whether there is enough time on this program to translate what people operating the

Lexington and Fort Worth institutions have meant. They have done many of the obvious things that a hospital has to do. The research contributions are beyond all measure, all worth, to the American people. As for us policemen, our best contribution has been to prove every once in awhile what isn't so and what we don't know.

I might say that law enforcement is pretty important. Without wishing to be ungracious, I shall say that obviously the primacy of law enforcement is not the opinion here; otherwise law enforcement might appear more extensively on our agenda. Surrounded and outnumbered, I'm going to join you.

Let us assume that this is essentially a medical problem. Many years ago, the Public Health Service was seriously concerned about Psittacosis. I understand that antibiotics may put you in a relatively improved position today. I guess it's nothing to laugh at yet. But because in those days you didn't have any better or simpler way of coping with the problem, you put the great Treasury of the United States in the business of chasing parrots. We followed parrots from the low countries in Europe to Paris and by air to Mexico City and by truck to the Mexican border and we there intercepted birds, not for the sake of revenue but in the name of medicine! We have no sure cure for addiction as yet; no specific drugs or chemical as far as I know. I keep asking every day.

Our hospitals can take credit for salvaging many addicts. Despite that, I still insist that the best cure for narcotic addiction is for it not to occur. I think the best medicine is to try to control and stamp out the causative substance, illicit opium. It is sound medicine, I suggest, to contain the addict who spreads the know-how and the way of life of narcotic addiction. Quarantine is one of the oldest and solidest procedures in public health. There can be many variations on the theme of "Typhoid Mary."

However unpalatable, I think the truth is that the extended hand of medicine seldom reaches far enough to overcome the blandishments and seduction of opium until it has law enforcement to remove the all too-willing victim from the arms of Lady Morphia and to physically place him within reach if he is to have the advantage of what modern medicine can do for him. There are exceptions, but let's speak scientifically and generally. To the men of medicine here, I say do not let the claque play down law enforcement as if it were something in opposition to or a substitute for your work. If you do, you may be withering your right arm. I think that the unhealthiest situation with which we have to contend today is this drive to make it appear that there is dissension between law enforcement and medicine in the narcotic control field. That should be the first concern of our public health efforts. I suggest to you gentlemen that medicine in this field without the help of law enforcement would be smothered.

And now that I have cheerfully violated every tenet of my teaching and have done some lay practicing of medicine, let me be inconsistent enough to complain about the nonprofessionals who like to practice law enforce-

ment. These people say we're too tough. Legislative committees in our Senate, legislative committees of our House, legislative committees of States like New Jersey, Ohio, Missouri, and Illinois, and legislative committees in Canada have exhaustively examined this field in the past few years. They have talked to every expert and self-professed expert who offered himself, and they invariably have agreed that one remedy is tougher law enforcement. This sort of unanimous reaction should suggest to people of practical commonsense who disagree that they might look around to see just who is out of step. Too often, instead, we have the armchair criminologist's theory that severity does not repress.

The record is clear that despite temporary setbacks we have made great strides in eliminating the narcotic drug evil in this country. The record is equally clear that much of this we owe to law enforcement with the support that it has had from so many other quarters. When I say that I think that rigid law enforcement with severe penalties is one of our best hopes for the future, I would be less than frank if I didn't save some reservations. Our hopes for a program of tough sentencing which would quickly strangle the commercial traffic have not been realized as promptly as we would like. We have encountered some indications of active proselyting of judges against this program with considerations which should be immaterial urged on them. We hope that the resistance in this quarter will die out as the efficacy of the program demonstrates itself where severe sentences are guaranteed.

But much more ominous than that is what has been happening to law enforcement generally by the impact of judicial fiat from our top tribunal. You State law enforcement officers only know the beginning of this. Wait 2 or 3 years and you will realize the damage unless we have a change. People in Washington might be more aware of that than the country generally because of the legislative uneasiness developed from such decisions as that in the Mallory case. Actually, the erosion of police power has been practically a continuous process since 1942.* This is a most curious development because this is an era in which police are more professional and better behaved than they have ever been in the history of this country. One wonders how the Republic survived under the "Police State" which must have existed before the court set out to remake law enforcement. It is necessary to make this statement if there is to be a full comprehension of all the difficulties ahead. In as secret and professional a racket as the narcotic traffic, the impact of every technical judicial obstacle is magnified tenfold. Law enforcement with your help will deal with this problem successfully, but it will be a slower, tougher job unless there soon is a turn of the judicial wheel, as inevitably there must be if this Republic is to escape anarchy.

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*Consider the line of decisions from Anderson and McNabb to Mallory, Elkins to Mapp, Roviero to Jencks, and Watkins, Jeffers, Rea, Benanti and Jones.

Quarantine and isolation, in my opinion, are elemental concepts in the control of infectious and contagious diseases. We certainly have a transmissible characteristic in drug addiction phenomena. Generally it is the addict who translates to the neophyte as a great experience the abuse of a chemical that would otherwise be so much harmless dust. If we want to eliminate this health hazard promptly, we must work toward a program where we will quickly and surely take the addict out of society, place him in a drug-free environment, and then cautiously let him back into circulation with a string attached. To what we have been able to do for him medically while he is confined, we add what supervision and aftercare can contribute. That supervision and aftercare will be more realistic because of the string attached. The rehabilitation of the addict is a worthwhile and necessary concern. Marginal and doubtful as he usually is, as a fellow human being he is entitled to the best effort we can give him. But since the best cure for narcotic addiction is for it never to occur, our chief and most practical concern must be for the nonaddict contemporary of the addict. To him we owe the principal responsibility. For his safety and well being, we must cure or segregate the addict. The mere existence of an aggressive program of this nature should discourage the possible neophyte. If properly carried out, it should do much to diminish the "fad factor" of drug addiction.

DISCUSSION

Ploscowe: We have heard tributes to Dr. Kolb and the remarks of Dr. Kolb. Now we have listened to another aspect of the problem. There are notable differences. One of the problems is whether we must accept either point of view as completely accounting for reality. I think part of the trouble here has been an attempt to say either/or. Nobody in their right mind would cut out law enforcement. The problem is where lies the domain of medicine? Apparently there is some desire to eliminate medicine altogether and turn the thing over completely to law enforcement, or vice versa. Here is the basic issue: Where are the respective domains of medicine and of law enforcement?

Berry: Mr. Moderator, my name is Dr. Leonidas Berry, from Chicago. I am the Coordinator of the Narcotics Program there and am particularly concerned with the Narcotics Clinic. I would like to comment on some things that have been said. I am very glad to have this opportunity to hear Mr. Harney who has recently come to Chicago to head up the reorganized program there. We will be working together. I agree that the problem is a multifaceted one. We have three clinics which we call medical counseling clinics for the followup care and prevention of narcotic addiction among young adults. Briefly, in 5 years we have seen 2,500 addicts; more than 1,200 of them have been admitted to our clinics for counseling, and we feel that we have gotten some definite results with them. The others—people who did not enter the clinics—were helped in many ways to get into Lexington, Fort Worth, and other places.

We feel that these people who have gone through our clinics have acted about like sick people with other diseases. That is to say, that they have come as long as they felt they were getting help from the doctors and from the people who worked with them in the clinics, and have dropped out when they felt they didn't need this care any longer. When they felt that they needed additional support from people in the clinics, they have come back. There are many whom we have not been able to follow up, but we feel that we have done a good job and that there is a need for etxension of this type of clinic care and followup within the communities in which these people live.

Raskin: I am very happy to relate to the audience the fact that two men from Mr. Harney's office are going to be visiting with us in Detroit next week in order to observe how psychiatrists and the medical profession are going after the problem of narcotic addiction. I understand that Mr. Harney is intending to integrate a similar system within his own region in terms of a combined law enforcement and medical treatment program. There is no question whatsoever that law enforcement, in coordination with medicine, forms a more complete picture in terms of dealing with and trying to control narcotic addiction.

We must emphasize what has been found by gentlemen in Chicago, New York, California, and Detroit, namely, that we are dealing with sick people. I don't think any of us dare ever forget that. We are dealing with people who are sick in a particular way, a type of illness that is not unlike other types of psychological or emotional illness. We must think in terms of dealing with these individuals as we deal with any patient. This comprises the real focal point of our observations in Detroit and has given rise to the proposed program we are trying to implement in Detroit: First, we have sought a legal instrument whereby the addicted person can be committed to a hospital as any other mentally ill patient can be. This we have found in our State mental health statutes. Second, the hospital is specifically organized, staffed, and administered to handle the problems of withdrawal from the addicting substance and to provide a complete evaluation of the sick person from both a psychologic and sociologic point of view. Third, the outpatient clinic facilities, including both psychiatric care and social rehabilitation, integrates and coordinates services among all of the various governmental and voluntary community agencies. Our feelings during the past 5 years, and the results we have encountered, indicate that this is not only an individual problem as far as the addicted person is concerned, but it constitutes a total community problem. Fourth, and perhaps most important, there is a continuing followup program within the community. I want to emphasize that we believe that working with this particular emotionally organized individual must be on a compulsory basis, in accordance with Mr. Harney. The so-called "string" that he wants to keep attached to the individual is not a law-enforcement string, but it is a therapeutic string.

Gamso: I endorse much of what has been said about treatment, particularly by Dr. Chapman. A major comment I would like to make is that there is no substitute for working with drug addicts; one of the weaknessses at present is that so few people do work with drug addicts. I would like to see not only more specific treatment in institutions for drug addicts but that other hospitals, particularly psychiatric hospitals, take on at least a few drug addicts. When more doctors are examining the problem, we will probably be more successful.*

Kolb: I would like to ask Mr. Harney two questions. The activity of Dr. Adams of England was brought up. I would like to know where his information about Dr. Adams comes from. Two distinguished enforcement people in the United States said that Adams killed 400 old people in Eastbourne by making addicts of them, and then giving them heroin until they died. That seems to me to be just fantastic. Knowing that it

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*Footnote added to symposium transcript at the request of Dr. Gamso:

Riverside Hospital is a program with which many workers in the field are not yet acquainted. Riverside Hospital was opened for the examination, care, and treatment of drug addicts under 21 years of age on July 1, 1952. From July 1, 1952, until December 31, 1957, the hospital had received 1,359 unduplicated first admissions. These patients had a total of 2,935 hospitalizations. With few exceptions, they were admitted under the Public Health Law of the State of New York. This law provides that an interested adult may file a petition with the appropriate court requesting treatment for the adolescent drug user. After a hearing, the court order places the applicant under the care and treatment of the hospital for a period not to exceed 3 years.

Since August 1954, the hospital has retained such jurisdiction for the full 3-year period. After an initial period of hospitalization, which varies from a minimum of 1 month up to and exceeding 18 months, the patient is transferred to clinic care, where the patients receive weekly clinic appointments. The hospital usually has about 150 inpatients and about 200 outpatients regularly attending the aftercare clinic. A larger number of patients are still under the jurisdiction of the hospital for followup purposes, although they may have been apprehended for drug use and sentenced to a penitentiary. After imprisonment is completed, they return to regular clinic supervision.

There is close coordination and cooperation between the professional treatment staff of the hospital and other agencies including courts, probation, and parole officers. This cooperative interest in patients seems to result in improved clinic attendance and apparently results in better community adjustment.

In its work with young drug addicts, Riverside Hospital employs all varieties of inpatient programs, including psychotherapy, supervision, educational training in the attached Public School No. 619, vocational assignments in the patient work program, and supervised recreation, both in the hospital and on field trips. Despite the interest of community agencies, it has been difficult to obtain acceptance of patients in community centers, counseling services for families, and other necessary community services. Part of this is due to the limitations of services available. A great part is due also to the failure of patients and their families to take advantage of services which are offered. It has been our observation that many patients retained in this intensive program show evident improvement. They make better community adjustments; decrease their participation in anti-social behavior and decrease their drug use. It is our belief that this application is helpful to a significant proportion of our patients.

is almost impossible to kill an opiate addict by giving him more of the drug, and that is what was implied in the statement, I wrote to the British Ministry of Health for information about the Adams case. In my letter I quoted exactly the statements that these two distinguished people, both of them friends of mine, made about the problem. One of them said that 400 people were killed and also that the attention of the authorities was drawn to the Eastbourne situation by the high death rate there.

This is the response which I received from the British Ministry of Health: "I think the answers to the question you raise are as follows: So far as the Adams case is concerned, there is no evidence whatever that he created 400 addicts or killed 400 people. Perhaps all this can be best covered by saying that no credence should be given to this sensational report quoted by (Blank and Blank), and, indeed, no writer in this country would be likely to venture to repeat these libels even for the purpose of refuting them. Nor is there any truth in the statement that the authorities were attracted to the situation by the high death rate at Eastbourne."

The unintentional propaganda that brought about this strong refutation illustrates what I pointed out this morning. Propaganda incites our people by giving them inaccurate statements from apparently irresponsible and unreliable sources. I have not been able to find in any official reports or scientific articles anything to substantiate the statements that Mr. Harney and my other two friends have made about the Adams case.

Harney: My knowledge of the Adams situation is largely confined to what appeared in the public press in this country. There was testimony quoted to the effect that Dr. Adams was handing out very large doses of heroin to the superannuated patients of his. Of course, you can kill a superannuated narcotic addict by withholding drugs. I assume you would agree with me on that. And I would say those are the kinds of things that should be covered in the mortality tables.

Kolb: My second question is: Does Mr. Harney believe that being a drug addict or the selling by a pusher to a drug addict is as serious a crime as murder, kidnapping, or rape? That is what has been told to our Congress, and on that basis our Congress has passed one of the most tragic laws that ever got on any legal document anywhere.

Harney: There are a lot of murderers for whom I have more respect than dope peddlers. There are many people doing time for murder who are creatures of one horrible impulse to which they succumbed and for which they must live the rest of their life in remorse. For those people I have the greatest sympathy.

As for the man who deliberately sets out to engage in narcotic traffic, you and I see a little different type, of course, doctor. He is all cleaned up and slick, and he minds papa when you have him in the hospital corridor. But the fellow who goes around, up and down the streets with our undercover boys, he is a pretty sad fellow. That is a situation I wouldn't put any human being into. And a person who for money, for blood money,

puts a fellow human being in that position, he is worse than a great many murderers.

Kolb: In reference to this I want to point out again that there is only one reason to regulate heroin and other opiates. The reason is the physical dependence, because of which habitual users have severe withdrawal symptoms when the drugs are withheld. This is an important thing to protect people from, *but the assumption that these drugs cause deterioration and crime is utterly unfounded.* To send persons to the penitentiary for 10 or 15 years for possessing one heroin tablet, as some of the "educated judges" that Mr. Harney has talked about have done, is a tragic thing that must eventually end just as witch burning eventually ended. The witches are now treated in mental hospitals, but we needed laws for this just as we need laws to regulate addiction. Sickness is the paramount thing in both cases.

There is much tragedy and no rationale to the statements frequently made that as a result of severe narcotic laws in some jurisdictions there are fewer addicts on the street. Why not send our 4½ million alcoholics to the penitentiary for up to 40 years with no chance for parole? Everyone knows that that would be foolish, yet all informed people know that alcoholics are much more dangerous both to themselves and to society than are morphine and heroin addicts.

We need *sane* narcotic laws, administered by people who know that their function is to enforce the laws and not to dictate what the laws should be. What is there about drug addiction that it should be made the worst possible crime in the United States? I think that any informed person who gives the matter any thought at all will find that any such assumption is unwarranted. I know that drug addiction has decreased through law enforcement, but I think it would have decreased to the same extent if we had the same sort of enforcement as they have in England and some of the other European countries that Mr. King described.

Farr: My name is Fred Farr. I'm a State Senator in the California State Legislature and a member of the California State Senate Committee on Narcotic Addiction. I would like to address a question to Dr. Chapman. I was the author of the bill which is now the law in California making it permissive for a judge to impose as a condition of probation or a condition of parole that the addict submit to the Nalline treatment to see whether or not he is back on heroin or opium derivatives. I would like to ask Dr. Chapman why he is against involuntary use of the Nalline test.

Chapman: Nalline has certain possibilities to be used as what we would call—and I use a psychiatric term here—a chemical super ego. I am personally and unequivocally against using any drug to coerce anybody to do any thing, any time, anywhere. This is one of my personal moral and ethical convictions. If a person wishes to take the drug Nalline voluntarily and submits to the test on a voluntary basis, saying "I would like to do this so that I can help to keep myself straight," I would be perfectly

willing to go along with it. I am just personally against (i) using drugs on an involuntary basis, and (ii) holding that this is the only condition on which an addict can be released into the community.

I think there is a great danger, in addiction, that this will become a short circuit, a substitute for community rehabilitation. This is what we have seen all along in the whole field of treatment of narcotic addiction. We build big hospitals, more institutions, a lot more people keep talking about length of time intramurally, but we don't do one thing about treating the person in the community except to try to set up some quick, short-circuit substitute for keeping him off drugs.

Farr: No person has to accept probation or parole. It is up to the person to accept it. If he wants to accept it, subject to the conditions set down by the court, this is certainly not mandatory.

Chapman: He certainly would have a Hobson's choice, however.

Speer: Lee Speer, Field Supervisor of Enforcement, Bureau of Narcotics, Treasury Department, and formerly Chief Investigator for the Senate Subcommittee on Narcotics under the chairmanship of former Senator Price Daniel. In New York on September 19, 1955, Mr. Rufus King testified before this Senate subcommittee that he considered Dr. Ratigan of Seattle, Wash., a brave man. At that time he stated he did not know much about him. Following that testimony, in an article in Duke University's "Law and Contemporary Problems," Mr. King defended Dr. Ratigan as the seller of 400,000 shots of morphine at a dollar a shot. The doctor had been convicted and the Supreme Court had refused to review the case. I would like to have Mr. King's explanation.

King: I am delighted to answer that question. In fact, I have what I wrote open in front of me. What I said before was that Dr. Ratigan "might have been a brave man". There was an indication to me that here was a doctor who tried bravely to swim upstream and to assert his rights in spite of the way most of his profession had already been intimidated. I would like to read you just a paragraph or two. I do know more about his case than this and I'm still not sure whether he was a brave man or something of a charlatan. There is no question that he made money.

> In the early 30's a doctor in Seattle opened a private clinic to furnish narcotic drugs to addicts. He observed the crucial distinction between direct administration to each patient, and prescribing or dispensing in quantity so that the drug might be overindulged or resold; he administered directly only. But he promptly attracted the attention of the Narcotics Bureau. He was first indicted in May 1934 and was acquitted after a full jury trial.

And here is the citation to that trial.*

> Thereafter, he continued his operations under the hostile surveillance of the Narcotics Bureau agents, who made a second case against

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* *U.S.* v. *Ratigan,* 7 F. Supp. 491 (W.D. Wash., 1934).

him resulting in another indictment, in November 1935. This time he was convicted, sentenced to 7 years, and fined $10,000. Subsequently pending his appeal, which resulted in affirmance [and I cite the second trial*], he gave bond and sought to continue his clinic operations.

The Narcotics Bureau countered, however, by ordering his wholesale suppliers (that is, the drug manufacturers) to refrain from selling narcotic drugs to him. He brought an action in the District of Columbia courts, to enjoin the Commissioner from thus interfering with his activities—and it was only when he lost the first round of his collateral skirmish (that is, in a court action in Washington, D.C.), being denied a temporary restraining order, that he gave up the fight.

He went to the McNeil Island Penitentiary in June 1937, and in 1938 the State of Washington Department of Licenses revoked his medical license.

[Then there is a footnote:] "Official interest in Ratigan apparently continues." [And a quotation from Mr. Anslinger testifying before the Senate Committee in 1957 in reference to Ratigan:] "His license has been revoked. He has taken the Medical Board into court several times. I am sure he will not get his license back."

So, I don't know for sure whether Ratigan was a brave man or not. He certainly ruined his life, and went a long way to test the premise that a doctor under controlled conditions may administer drugs to addicts. I believe he charged 50 cents a shot at his clinic, and I will concede a lot of money must have changed hands.

**Ratigan* v. *U.S.*, 88 F. 2d 919 (CCA 9, 1937), *cert den.*, 301 U.S. 705.

LABORATORY APPROACH TO THE PROBLEM OF ADDICTION

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In the classical experiments of Sertürner (*200*), 1803–06, who attempted to reproduce the clinical picture of opium intoxication in dogs with his newly isolated alkaloid "morphium," may be seen the chemical and biological elements which have subsequently constituted the two principal avenues of approach to experimental "addiction." Although Sertürner and a few other careful observers may have speculated as to the nature of two of the principal facets of chronic abuse of opium, craving (psychic dependence) and acquired immunity to the drugs (tolerance) and whereas it seems likely that these facets were known in antiquity, the whole problem was still poorly understood at this time. It is difficult to find mention except in a casual way of the most striking characteristic of this class of substances, their unique capacity to induce *physical dependence*. Cooper (*29*) stated in 1824, "This irritable state of the nerves produced by opium is relieved by a fresh dose, it becomes absolutely necessary to the patient, and the nervousness produced by the opium of yesterday is relieved by the opium of today."

The clinical literature of the late 19th century abounds with warnings of the disastrous nature of the morphine habit (*211*). Undoubtedly, the phenomena of dependence were recognized but only a few experimenters concerned themselves with these problems, principally by an attempt to explain tolerance and dependence on a basis of current immunological concepts. The literature prior to 1925 is covered adequately in the extensive review of Terry and Pellens (*211*), "The Opium Problem," and the monumental treatise of Eddy and his collaborators (*119*), "The Pharmacology of the Opium Alkaloids." Each of these monographs served successfully the intended purpose of initiating large-scale scientific interest in problems related to the abuse of opium. The production of these two monographs was part of an organized attack on the problem initiated by the Bureau of Social Hygiene and later by a Committee on Drug Addiction of the National Research Council, newly created in 1929 (*151*). The ramifications of this combined laboratory and clinical attack have reached proportions which I dare say even they did not foresee.

This brief presentation can reveal only highlights of a general problem discussed in 10,000 references prior to 1929 (*119*) and 2,000 since (*182*); indicate that objective studies on animals preclude, at present at least, a satisfactory analysis of psychic dependence in infra-human forms; and point out that the phenomena of tolerance and physical dependence can be established in animals and man, to many of the alcohols (*92*), the barbiturates and other depressants.

I. CHEMICAL APPROACH

1. *Utilizing the methods of organic synthesis*

a. *Morphine derivatives and moieties of the morphine molecule.* During the late 19th and early 20th centuries, the principal effort of alkaloid chemists, working mostly in German laboratories, was directed toward proof of structure and synthesis of the more important derivatives of this complex group of substances. As part of a coordinated program, the Committee on Drug Addiction established a chemical laboratory at the University of Virginia under the direction of Dr. Lyndon Small. During the first 2 years a complete review of the chemical literature was completed (*203*). Within 10 years over 400 new derivatives and moieties of the basic morphine structure had been synthesized. After an interlude on antimalarials during World War II, Dr. Small and his associate, Dr. Erich Mosettig, and others returned to this problem at Bethesda where he continued until his untimely death in 1956. Although they missed their ultimate goal of finding a potent analgesic without addiction liability, they were able to synthesize many substances of great theoretical and academic interest, thus permitting the detailed structure-activity analysis so necessary to progress in this field. One useful clinical product, methyldihydromorphinone (Metopon) also resulted from these studies. It is of interest to note that this complex chemistry was accomplished utilizing a stereochemical configuration of morphine based upon analytical procedures alone. Although this assumed structure was ultimately found to be correct, the final proof by total synthesis was not obtained until 1952 by Gates and Tschudi (*63*).

b. *Synthetic morphine-like substances.* In 1939 Eisleb and Schaumann made the chance discovery that certain phenyl piperidines possess significant analgesic action (*50, 243*). This tremendously important observation gave new direction to organic synthesis and pointed to the hitherto neglected nitrogen-containing ring of morphine as of prime importance in analgesic activity. For the first time potent analgesia could be obtained exclusively by efforts of the organic chemist. Unfortunately, early reports that the principal derivative, pethidine (meperidine), was free of addiction liability were soon dispelled. Methadones, of somewhat related structure, were discovered in the laboratories of the I. G. Farbenindustrie during World War II as an offshoot of pethidine research and appeared first in this country in 1945 (*24, 107*). This series now numbers many hundreds of com-

pounds. Some of these possess unique properties of great duration of action and demonstrate wide variation in activity among the numerous optical isomers.

Chronologically, the next substances to appear were the morphinans. These substances are structurally similar to morphine but lack the oxygen bridge, two hydroxyl groups, and the double bond. These synthetic substances, prepared first by Grewe (*66, 182*), represent a very important step which paved the way for the ultimate total synthesis of morphine. Interestingly, only the levo-rotatory forms have morphine-like activity. Recent studies have revealed several other type structures with analgetic action; the dithenyl butenyl amines (*2*); the spiro cyclohexylindames (*188*); and the hexamethylenamines (*198*) which possess a seven-membered heterocyclic ring substituted for the piperidine of pethidine. This latter group produces insignificant physical dependence but also low grade analgesia.

In spite of all of these attempts to produce synthetically "addiction free" analgesic compounds of high potency, it can be stated categorically that this has not yet been accomplished.* At the same time, individual compounds and, in fact, certain type structures, differ enormously in their capacities to induce both tolerance and dependence. It is possible that we have come full circle and returned to the original morphine molecule in the search for such a compound for practical use. Studies on normorphine, a simple demethylation product of morphine, indicate that in man and monkey the dependence sustaining and producing capacity of this substance is significantly reduced. From the nature and time course in single dose suppression and primary addiction studies in monkey and man, it is tempting to surmise that normorphine is well retained and converted slowly to morphine by methylation. In man the rate of conversion appears to be adequate to suppress abstinence as well as to initiate dependence. In the monkey an initial slow rate prevents suppression, but with time, tissues exposed to large, often repeated concentrations acquire a sufficient conversion capacity to establish dependence.

c. *Synthetic antimorphine compounds.* One of the most significant advances was the independent confirmation by Hart and McCawley and Unna in 1943 of the earlier observations of Pohl that norcodeine and

*Since 1958 two other type structures have been developed. Hunger, *et al.* (*88*) and Gross and Turrian (*67*) developed a series of benzimidazole derivatives having analgesic action. The most interesting is 1-(B-diethylaminoethyl)-2-(para-ethoxybenzyl)-5-nitrobenzimidazole, which is approximately 1,500 times as potent as morphine as an analgesic and in suppressing abstinence in the monkey. In man, 1 milligram of the compound orally is equivalent to 60 milligrams of morphine subcutaneously in suppressing morphine abstinence. The most recent-type compounds are those of the benzomorphan series, which have been synthesized and studied by May and Eddy (*145*). One of these compounds, phenazocine, is on the American market as an analgesic. This class of compounds offers some hope for dissociating analgesia from physical dependence capacity, although this has not yet been achieved.

other N-substituted derivatives could antagonize most of the acute effects of morphine (*236*). It was subsequently found that when these antimorphine compounds were administered to addicted individuals, animals or man, they precipitated an intense, short-lived abstinence syndrome qualitatively similar to that which occurred following abrupt withdrawal of morphine. The practical implications of such antimorphine substances is very great but insignificant in comparison to the value of these compounds as tools for the study of mechanisms of tolerance and dependence. These compounds, although appearing to lack the major narcotic actions of morphine including the capacity to produce tolerance and physical dependence, seem to possess some inherent analgesic properties in man. An active synthetic and testing program in this area is in progress.

II. BIOLOGICAL APPROACH

1. *Utilizing the methods of pharmacology and physiology*

a. *Comparative pharmacology of morphine and antimorphine compounds.* Although not directly related with addiction, the careful pharmacologic evaluation of new compounds is a most important and integral part of a large synthetic program. Without the aid of the pharmacologist an organic chemist is limited to theoretical considerations and has no biological control for the direction of his research. In 1929, pharmacologic laboratories were established at the University of Michigan (*151*) under the direction of Nathan Eddy to serve this purpose. All of the 400 compounds which were produced at Virginia were carefully screened biologically for various properties found in most analgesic agents. Whereas some screening has been carried on since 1939 on a more limited scale by Dr. Eddy at the National Institutes of Health, a large fraction of this type of work is presently being carried on in industrial laboratories.

b. *Production of experimental "addiction" in infra-human species.* Since experimentation in man is necessarily limited, it is essential to reproduce "addiction" in animals in order to study drug mechanisms and to carry out large-scale screening. The phenomena of tolerance, so characteristically noted after repeated administration of morphine and morphine-like substances can readily be induced in many biological forms varying in complexity from fibroblasts surviving in tissue culture to the chimpanzee (*119*). Tolerance acquisition is always an integral component of the total picture of addiction in large animals, monkey or man, and a significant degree of physical dependence does not occur in its complete absence (*40, 197*). However, tolerance to morphine may be readily acquired by smooth muscle cells of capillaries (*186*); in adaptive enzymes of microsomes from liver cells (*8*); and in isolated surviving pieces of guinea pig ileum (*165*). Furthermore, tolerance and tachyphylaxis have been demonstrated in hundreds of compounds of different chemical structure which possess no capacity to induce physical dependence.

Physical dependence is another story. It has yet to be demonstrated that any tissue other than those of the central nervous system is capable of becoming dependent upon these drugs in the sense of envoking an exaggerated biological response when these are withdrawn (*195*). An understanding of the basic mechanism of acquired tissue immunity to chemical substances, whether this be termed tolerance or tachyphylaxis, represents one of our major biological problems and in all likelihood such knowledge would be a large step along the road to an understanding of physical dependence. It is by no means certain, however, that the two phenomena are linked inextricably.

It seems likely on the basis of present evidence that certain neuronal structures present only in animals with higher central nervous system development are capable of developing physical dependence, in the true sense of the word. One of the principal features of tolerance development in higher organisms is that it permits the rapid attainment of a state in which the central nervous system is continually exposed to what would ordinarily be toxic or lethal concentrations of the drug. Many attempts have been made to use isolated tissue systems as models or paradigms of these neuronal structures (*8, 165*). These have met with little success since experimenters have used the phenomena of tolerance as a measure of a successful approach to the problem without being aware of, or taking cognizance of, the true nature of dependence. In order to study the mechanism of physical dependence and to screen new compounds for dependence liability, many attempts have been made to reproduce the condition in the ordinary small laboratory animals, mouse, rat, guinea pig, rabbit, and cat (*119, 193*). These have met with scant success when judged by the criteria of similarity to the human counterpart. Whereas some generalized hyperirritability may be noted in these species, for example, preinjection irritability in the rat; this is inconstant and shows such species and individual variation as not to be useful for screening purposes. In fact, the pharmacologic action of morphine on many of the structures in these species is exactly opposite to that observed in man.

The first studies in large animals with the specific objective of reproducing the withdrawal syndrome seemed to be those of Marme (*142*) in 1883, utilizing the dog. Numerous investigators have studied this animal (*173, 210*) and have reported a fairly consistent and reproducible abstinence syndrome consisting of rhinorrhea and lacrimation; rigidity and twitching of voluntary muscle, restlessness and noisiness, gastrointestinal disturbances, diarrhea, salivation, and vomiting, and an elevation in body temperature. In general, these signs of abstinence are sufficiently similar to those observed in man to render this animal useful for this type of study. One disadvantage is that in many dogs tolerance development to the nauseant, emetic, and appetite-reducing properties is so slow that serious weight loss and malnutrition preclude the development of the dependence state. Wik-

ler (*226*) has recently utilized this species very successfully in neurophysiologic studies.

Collins and Tatum (*27*) appear to be the first to report studies of chronic morphinism in the rhesus monkey. The present writer began working with this species in Tatum's laboratory at Chicago in late 1925 (*190*). The abstinence syndrome which develops in monkeys on abrupt withdrawal, or following nalorphine administration, is so strikingly similar in nearly every respect to that observed in man as to hold his major interest in this species and in the broad problem for over 30 years. One of the classical descriptions of the action of opiates in this species is that of Kolb and DuMez (*115*) in 1931. The signs of abstinence in the monkey have been described, classified as to their intensity (*191*), and utilized for comparative studies of several opiates and the synthetics (*26, 192*). No serious attempt to explore the utility of this species for large-scale screening of addiction liability was made until 1950. At that time, the Committee on Drug Addiction and Narcotics of the National Research Council established an industry-sponsored grant in the writer's laboratory at Ann Arbor to investigate this problem. The essential feature of this program was to duplicate in the monkey the Lexington program on man.

Two primary conclusions relating to method can be drawn from this 8-year study (*196*). *First,* in order to furnish the optimal conditions for development of tolerance and dependence, the administration of a drug must be continuous and at such a frequency as to exceed the time course of major detoxication of a unit dose of the drug. This means that if major detoxication occurs in 4 hours the drug must be given at least 6 times in each 24 hours and without interruption for weekends or holidays. This conclusion casts doubt on the validity of nearly all previously reported addiction studies on animals, especially those made with the short-acting compounds, an example of which would be codeine. With but few exceptions, for reasons of convenience and cost, it has been the practice in most such studies, including the early studies of this writer, to administer a very large single dose once a day for 5 or possibly 6 days a week. With such a technic it is not posisble to develop dependence to codeine, meperidine, methadone or many other rapidly detoxified substances. In view of the known species variation in rate and method of detoxication of most compounds it seems likely that the whole problem in small animals should be reinvestigated.

Second, utilizing frequent administration as described above, the qualitative response of the monkey to the morphine derivatives and to the several classes of synthetic analgesics shows a remarkable parallelism to man. This latter conclusion is based upon the examination of over a hundred analgesic compounds. These substances, which include placebo and non-analgesic controls such as amphetamine, atropine, acetophenetidin and the like, were coded by Nathan Eddy and submitted for blind testing in

single dose suppression tests to morphine-dependent monkeys. The results have been sufficiently satisfactory and impressive to warrant the establishment of this program as a preliminary screen to complement the Lexington studies in man.

c. *Sites of action of morphine-like substances in the central nervous system.* The action of morphine and morphine-like substances on the central nervous system is biphasic with overt evidence of both depression and excitation. Numerous attempts to pinpoint the action of morphine by utilizing newer physiologic technics appear to have added complexity rather than to have simplified the situation. Wikler and his associates (*226*) at Lexington have obtained revealing data in morphine-dependent animals utilizing chronic decorticate and chronic spinal dogs. They have demonstrated that tolerance and physical dependence can be developed in dogs in the complete absence of neocortex and portions of the archicortex. The abstinence syndrome is actually more severe in the absence of the neocortex suggesting its purposeful modification in the intact animal. This would be in accord with the wide interindividual variation in abstinence intensity in the dog and monkey as well as in man.

In chronic spinal dogs evidence of tolerance and dependence similar to that obtained in the intact animal were demonstrated in the ipsilateral flexor and the crossed extensor reflexes but not in the ipsilateral extensor thrust or the knee jerk. In the latter, actual depression of activity occurred during withdrawal. Wikler interprets this as support for a rebound type of homeostatic response. It should be borne in mind, however, that it is yet to be proved that the reaction to these drugs would be qualitatively similar if the pathways to the brain were still intact.

In general, it seems to be safe to conclude that physical dependence to morphine involves the entire neuraxis with some centers more affected than others. Whereas the general pattern of somatic and visceral actions is similar for all compounds capable of inducing the phenomena of tolerance and dependence, each chemical type effects its own unique qualitative spectrum of actions and quantitative response. Such is probably the case with each chemical entity. It is not to be expected, therefore, that an absolute "fit" will ever occur in substitution studies, a fact borne out by experience in our laboratory.

2. *Utilizing the methods of experimental pathology*

The significance of conflicting reports (*119, 182*) dealing with permanent pathology resulting from chronic morphinism in man is difficult to evaluate because of the diffuse and nonspecific nature of the purported injury. Considerable evidence has been accumulated in animals pointing to structural change. Unpublished data from our laboratory (*10*) indicate that abnormal neurological signs were noted in the monkey following heavy poisoning for several years. Examination of these brains indicated fairly heavy but poorly localized injury throughout the brain but little, if any,

in the spinal cord. The bulk of evidence supports the view that some semipermanent or possibly permanent "residue of injury" is induced by prolonged and intensive poisoning. This area seems to offer a fruitful opportunity for the application of histochemical technics.

3. *Utilizing the methods of experimental psychology*

The desire for repetition of the drug experience (craving) seems to be strictly a human attribute since it has not been demonstrated in infra-human species.* Spragg (*204*) showed objectively in multiple-choice experiments that the chimpanzee could clearly associate the relief of abstinence with the injection of morphine. Although such objective experiments have not been performed in the monkey, interpretation of behavior during withdrawal leads to the same conclusion. The element of conditioning cannot be disregarded in evaluating the results of studies of this type. With colony cage housing of several monkeys, a "pecking" order is developed within a few weeks which is seldom violated in volunteer emergence from the cage to receive the 4- or 6-hour injection. This develops equally well with saline injections and low activity as with morphine and other potent agents. The morphine-dependent monkey also becomes sufficiently conditioned to the experience of repeated nalorphine withdrawal that "pseudo" withdrawal signs which include vomiting are produced by saline injections as long as a month following complete withdrawal. This phase of the problem has hardly been touched and offers a fruitful field for further investigation.

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*Recent investigations in this area have yielded some very interesting observations which refute the statements above. Nichols (*153*) determined that water-deprived morphine-dependent rats during abstinence learned to prefer to drink bitter morphine solutions to water; such a solution being unacceptable to controls. Beach (*9*) demonstrated that rats preferred patterns of behavior formerly associated with morphine administration. This type of investigation has been elaborated further by Wikler, Green, Smith, and Pescor (*228*) who utilized a solution of 5 ug/ml of a potent benzimidazole derivative, 1-(B-diethylaminoethyl)-2-(para-ethoxybenzyl)-5-nitrobenzimidazole methane sulfonate (NIH 7607) as a morphine substitute in order to avoid the bitter taste. He confirms the observations of Nichols that morphine-dependent rats preferred NIH 7607 to tap water during abstinence. Recently Weeks (*224*) has eliminated problems associated with oral and hypodermic administration by implanting polyethylene catheters in the right heart of rats. This technic has demonstrated that rats rendered dependent by automatic injection learn to self-inject by bar pressing when motivated by abstinence. This has been confirmed in the monkey by Yanagita and Deneau in the author's laboratory, one monkey having maintained dependence for over 6 months. These experiments have involved the distress of abstinence as the motivating factor. As a part of a comprehensive study in this area in the author's laboratory, experiments by Yanagita have demonstrated clearly that some (approximately 50 percent) of normal monkeys, without previous drug experience, when offered a choice between tap water and a solution of either morphine or the benzimidazole derivative, will within 10–20 days prefer the drug solution and develop and maintain the dependent state by continuing to drink the drug solution. The benzimidazole solution was diluted to be below human taste threshold.

4. *Reversal of abstinence by substances lacking morphine-like actions*

Only sporadic attempts have been made in an effort to treat abstinence with substances lacking morphine-like action, primarily because no satisfactory baseline has hitherto been established in any animal species. The comparatively few positive claims from animal studies (119) involving lecithin feeding, high choline diets, excessive thiamine administration, insulin treatment, etc., have failed of clinical confirmation. Although nonspecific depression may be induced with reserpine, chlorpromazine, the barbituates, etc., in the monkey, these substances are incapable of reversing the specific signs. This is also the case in man. A comprehensive search for nonmorphine-like substances capable of modifying the intensity of abstinence signs in the monkey seems to be indicated in the hope of casting some light on the intimate mechanisms.

III. BIOCHEMICAL APPROACH

1. *Effects of the organism on distribution and fate of drugs*

Space will permit only the most cursory examination of the extensive literature* relating to the distribution and fate of these substances. Not only do the tissues of one species vary in their response to differing chemical and physical properties of a series of even closely related drugs but enormous species variation, both qualitative and quantitative, is also noted. Generalizations, therefore, must be based on preponderant qualitative evidence. With morphine as the prototype, certain generalizations may be made which seem to apply to most species, including man. Morphine is readily absorbed and distributed throughout the body, circulating in the plasma in several forms; free, demethylated, and bound. It is distributed to all soft tissues but only small concentrations are to be found in the brain and cerebrospinal fluid. A small amount of normorphine is formed by N-demethylation. A much larger fraction of morphine is conjugated with glucuronic acid enzymatically on the phenolic hydroxyl, largely by enzymes present in liver microsomes. Even smaller quantities of other conjugates, possibly diglucuronides or ethereal sulfates are formed and appear in the urine. The liver conjugate, morphine monoglucuronide is excreted in large quantities in the bile. This is largely reabsorbed from the intestine and excreted by the kidney. A small fraction is hydrolyzed to free morphine by the glucuronidase present in the bowel. A certain fraction is unaccounted for, in some instances as high as 10 percent, although Woods was able to recover in 24 hours 98 percent of a single dose in the urine and bile of a nontolerant dog with a biliary fistula. Even with massive doses nearly all of the morphine is excreted from the body in 72 hours; although some undoubtedly remains, its concentration is so small as not to be detected by present methodology. Numerous attempts to explain tolerance on the

*In discussion of important literature, see *Morphine and allied drugs* (*182*), pp. 6–19.

basis of altered distribution and excretion of the drug have not provided acceptable evidence for such a conclusion. Although attempts have been made to study the distribution of morphine in specific regions of the central nervous system, these have little meaning at present. Little progress can be made in this direction until sufficiently sensitive and specific methods are available to permit intracellular as well as extracellular and cell group localization.

Meperidine and methadone also undergo significant alterations in the liver, principally involving de-esterification and demethylation. As with morphine, the acquisition of tolerance is not associated with a significant change in the pattern of detoxication.

2. *Effects of morphine and morphine-like substances on biochemical processes*

In the dog, the total body metabolism as measured by oxygen consumption is increased during the withdrawal period (*174*). This is due, in part at least, to the increased muscular activity and rigidity. This increase can be demonstrated in minced muscle of morphine-dependent rats and dogs (*201*). Following single dose administration, morphine and morphine-like substances exert a profound influence in carbohydrate metabolism (*182*) probably in large measure from activation of hypothalamic autonomic centers causing a release of epinephrine from the adrenal medulla. The pituitary also responds in this hypothalamic excitation with the release of ACTH and increased adrenal corticoids, as well as ADH, the antidiuretic hormone. The marked morphine inhibition of glycogenesis, noted in non-tolerant rats as well as changes in ATP formation led Abood, Kun and Geiling (*1*) to conclude that "the acute administration of morphine is responsible for serious depletion of energy reservoirs of all tissues reflected primarily in the inhibition of glycogen synthesis in the liver." This effect is largely lost in tolerant animals which seem to be able to carry on normal glycogen synthesis but do show some defect in the rate of ATP formation.

Conjectures have been made regarding the action of these substances on lipids and lipoprotein metabolism but the meager work (*119*) in this area needs confirmation and amplification. Many of these compounds are also potent histamine liberators, but the significance of this in relation to the problem of tolerance and dependence is not apparent. Changes in water metabolism and water balance occur in the tolerant rat and dog during administration and withdrawal. These have been variously ascribed to liberation of antidiuretic hormones, to alterations in mineral metabolism secondary to ACTH release, and to direct action of morphine on renal hemodynamics. These factors seem to have little significance in man.

Results obtained from studies of isolated tissues and enzyme preparations from tolerant animals have been generally disappointing as they relate to an understanding of mechanism. Unphysiologic concentrations of morphine and morphine-like substances induce reproducible effects on tissue minces and slices of liver, kidney, and many other tissues from the normal

animal *in vitro* and also act on many isolated enzyme systems. It has not been possible, however, to obtain consistent results, even with large concentrations of these drugs on tissues of the normal central nervous system or from nervous tissue isolated from tolerant animals. In the latter case, the tissue concentration is insignificant compared to those studied *in vitro*. The only consistent finding which might suggest an altered metabolic response to the presence of these drugs are those of Shideman and Seevers (*201*) who found an azide sensitive increment of oxygen uptake in skeletal muscle during withdrawal which increased and decreased with time in a pattern similar to the curve of intensity of the abstinence syndrome. Wang and Bain (*223*) found a considerable depression of the cytochrome oxidase of both brain and liver of chronically morphinized rats. Whereas all of the evidence seems to point to some modification of carbohydrate metabolism, the pattern of action has not been established. The ingenious studies of Axelrod (*8*) and his collaborators on glucuronic conjugating enzymes in microsomal fractions of liver cells are of considerable interest, but difficult to relate to dependence.

Considerable attention has been paid to the fact that morphine and related compounds are relatively effective cholinesterase inhibitors. The possible implication of this mechanism in tolerance and dependence is suggested by Wikler (*226*) who found that a small dose of physostigmine will reproduce the abstinence picture in chronic spinal dogs. Paton (*165*) offers similar views to explain the diminished production of acetylcholine by guinea pig ileum. It is somewhat disturbing to this concept, however, to realize that dextrorphan, a substance almost completely lacking in morphine-like action, is equal to that of its optical isomer levorphan in inhibiting rat brain esterase *in vivo* (*177*). Furthermore, near-lethal doses of levorphan are incapable of altering the activity of brain cholinesterase *in vivo* although this drug has a strong capacity to induce tolerance and physical dependence.

The author believes that the phenomena of dependence may ultimately be explained on the basis of enzyme adaptation. At present, however, he finds no convincing reason to alter a conclusion made in 1954 (*194*).

It seems fair to conclude that no enzyme system has yet been found which is sufficiently sensitive to morphine, or any of the synthetic analgesics to permit the reasonable deduction that the direct pharmacologic action of these drugs, tolerance development, or the state of hyperexcitability created during chronic administration can be related directly to alterations in the activity of, or the quantity of the enzymes present.

IV. CORRELATION OF CHEMICAL AND BIOLOGICAL KNOWLEDGE BY STRUCTURE-ACTIVITY ANALYSIS

Structure activity analysis on a large scale was not attempted prior to the coordinated program referred to above. Publications resulting from these studies dealt only with modifications of the morphine molecule. The theories relating structure to analgesic action are reviewed recently by

Reynolds and Randall (*182*). In 1953 the United Nations Economic and Social Council authorized a careful analytical appraisal of the facts designed to define the relationship, if any, between chemical structure, analgesic action, and addiction liability, and to determine whether common chemical features could be discovered which were unique to this class of substances. This analysis has resulted in the preparation of a series of comprehensive and utilitarian monographs by Braendon, Eddy, and Halbach (*13, 44*). The only major scientific criticism which can be directed against this analysis is that the quantitative values for analgesia were obtained primarily from tests on the mouse and those for addiction liability from human trials. Practical considerations, however, made this plan a necessity since no other extensive data are available. Two important conclusions were obtained from this study:

(i) The parallelism between the order of intensity of analgesic action and that of physical dependence production may indicate a relation between these two properties, but, at the same time, the exceptions suggest the possibility that the two properties are independent. Our present knowledge does not permit clarification of these points.

(ii) Insofar as a relationship seems to exist between analgesic action and physical dependence production (addiction liability), the features which have been found to be possessed in common by morphine-like analgesic drugs may be considered also characteristic of those compounds which produce morphine-like addiction, namely, (a) a tertiary nitrogen; (b) a central carbon atom none of whose valences are connected with hydrogen; (c) a phenyl group, or a group isosteric with phenyl, which is connected with the central carbon atom; (d) maximum activity when the central carbon atom is connected with the nitrogen by a two-carbon chain. Compounds possessing these features may not exhibit morphine-like addiction liability, and therefore, the presence of these conditions cannot be made a basis for prediction of addictive properties.

V. HYPOTHESES RELATING TO MECHANISM

A careful review of the literature will probably reveal that there are many more pages devoted to speculation as to the mechanism of tolerance, psychic dependence, and physical dependence than to revelations of fact (*40, 195, 197, 209*). These include decreased absorption, change in rate of excretion, altered tissue distribution, antitoxin formation, all of which are presently discounted. The concept of metabolic transformation to a substance or substances retaining excitant properties although attractive is presently unsupported by fact (*142*). Most recent hypotheses involve variants of the cellular adaptation concept and include formation of additive products with or substitution for some cell constituents (*194*), modification of the quantity or activity of enzymes (*223*), abstinence as an integrated resultant of the depressant and excitant actions of these drugs on

different functional groups in the central nervous system (*210*), and homeostatic adaptation in the autonomic nervous system (*82, 92*).

Thus far, these concepts represent interesting descriptions of events, exercises in semantics, or plain flights of the imagination. Probably none deserve to be classified as theories since they are based upon such little factual information. Although such a generalization is disconcerting, it might serve as a summary paragraph to nearly any review dealing with biological mechanism. It is unlikely that definitive answers will be forthcoming in this area until methodology is sufficiently advanced to permit an understanding of the energy sources in the neurone, the nature and role of chemical transmitters, the position and nature of receptors, and the mode of transfer of chemicals through cell membranes—to mention but a few.

Let it be said then that the last 30 years of laboratory endeavor have defined the problem, reproduced and described the phenomena of tolerance and physical dependence in infra-human species, placed in the hands of the investigator new and mighty research tools, and in part at least established lines of approach to this fascinating problem.

Acknowledgements: Supported by grants from the Committee on Drug Addiction and Narcotics, National Research Council with the cooperation of interested industrial groups, and by grants from the National Institute for Neurological Diseases and Blindness and the Division of Research Grants, National Institutes of Health.

CLINICAL RESEARCH ON ADDICTION IN THE UNITED STATES

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This paper traces briefly the history of clinical research on opiate addiction in the United States. Primary emphasis is placed on the period from 1920 to 1944, though a cursory examination of events from 1870 to 1920 and a short exposition of the highlights since 1944 is made to set the stage for the main story.

1870 TO 1920

This particular period was covered in detail by Terry and Pellens (*211*), Krueger, Eddy, and Sumwalt (*119*), and Stevenson (*205*). Opiate addiction was not recognized as a problem in the United States until the last half of the 19th century. Its appearance at that time seems to have been due to a number of factors. The American Civil War, with its terrific casualty rate, was fought at a time when hypodermic administration of the pure alkaloid, morphine, was becoming popular. So many wounded veterans became addicted that addiction was referred to as the "soldiers' disease." Specific treatment for many diseases was not available, so that opium was frequently used for symptomatic relief. Prescription by pharmacists and use in patent medicines was particularly common in southern States because of the prevalence of diarrheal disease; many of the nostrums of that time contained opium in varying quantity. Most important, however, was the importation of Chinese laborers into the west coast to assist in building the transcontinental railroads. The Chinese brought the practice of smoking opium with them, and this habit was taken up by adventurous people—"sporting characters" as Kane (*102*) described them—and spread among unstable individuals living on the fringe of the law. Opium smoking spread from west to east, while the use of morphine hypodermically, beginning with the veterans of the Civil War, spread from east to west. These factors led to development of a considerable problem of addiction in the United States, which became one of the great consumers of smoking-opium, 92,000 pounds of prepared opium being imported annually in the decade 1890–99 (*211*). No such combinations of events occurred in any of the other Western nations.

From 1870 to 1900, most physicians regarded addiction as a morbid appetite, a habit, or a vice. After the turn of the century, medical interest in the problem increased. Various physicians began to speak of the condition as a disease. Prominent among these men were Pettey (*171*), Lott (*138*), Sceleth (*185*), Bishop (*12*), and Alexander Lambert (*120*). Though they generally recognized the importance of an "unstable nervous constitution" in the etiology of addiction, these physicians, especially Bishop, seemed to be impressed most by the symptoms of abstinence. All of them speculated on the mechanisms of tolerance and dependence and most of them attributed the phenomena to a "toxemia" arising from auto-intoxication because of constipation, "locking up of secretions" by morphine, or to productions of other poisons from the morphine. As is still often true, these doctors were preoccupied with the treatment of acute abstinence and devised elaborate systems for managing that condition, which were based on elimination of toxins by drastic purgation and control of the excessive secretions and nervousness by heroic amounts of belladonna alkaloids. Despite the looseness of their thinking and the irrationality of their treatments, these men advanced the clinical study of addiction by their recognition and insistence that it was a problem with important medical aspects.

EFFECTS OF THE HARRISON LAW, 1915–22

Following passage of the Harrison Narcotic Act in 1915, addicts could no longer procure drugs readily. Some discontinued the habit, others turned to the medical profession, and many began to patronize the bootleg market. Rulings by the Supreme Court in 1919 and 1920 made it difficult for physicians to continue to prescribe drugs for addicts, so clinics were established in various parts of the United States in an attempt to treat addicts. The operation of these clinics, which were conducted in a loose manner and without definite objectives, was reviewed by the Council on Mental Health of the American Medical Association (*30*), and was severely criticized by the medical profession. The clinics were closed after a committee of the American Medical Association recommended (*51*) that the association emphatically condemn any system of treatment of addiction including narcotic clinics, which placed drugs in the hands of addicts for self-administration. This committee seems to have been strongly influenced by opinions (*175*) that addiction was a vice, and also by the activities of a few unscrupulous physicians, termed "script doctors," who issued drugs to addicts primarily for profit. The public, influenced by sensational newspaper articles, became alarmed. Following the end of World War I and the prohibition of alcohol, the incidence of crime in the United States rose. The increase in crime was attributable to narcotics, particularly to heroin. Fantastic estimates were made of a million or more addicts in the United States. Many addicts were young persons and claims were made that drug peddlers were deliberately proselyting youth, even to the extent of having heroin put into candy.

It was in this setting of clinical confusion and public hysteria that the major portion of our history begins. In 1923 a Public Health Service officer, Dr. Lawrence Kolb, who had been trained in psychiatry, was asked to come to the Hygienic Laboratory (now the National Institutes of Health) to spend a few months on the addiction problem. Those few months stretched into years and addiction became the major interest of his professional career. Dr. Kolb's selection was a fortunate choice, since he was a person endowed with a great acuity and sound judgment who insisted on making a "hard-headed" examination of the facts.

Kolb's approach was epidemiologic and clinical. He analyzed the surveys that had already been made concerning the number of addicts in the United States, and complemented these data with estimates based on the amounts of opium imported into the United States prior to passage of the narcotic law. He estimated that the largest number of addicts that could have been supplied by all the opium imported into the United States was 209,000 in the decade 1890–99. He calculated that in 1924 there were only 110,000 to 150,000 addicts in the United States (*114*).

Kolb also undertook to examine some ideas which were widely held at the time: Did the use of opiates cause addicts to commit violent crimes? What kind of people were addicts? Did opiates cause physical, mental, and moral degeneration? What were the reasons for initial drug use, and for relapse after cure?

In order to get information on these questions Kolb obtained detailed histories, physical and psychiatric examinations on addicts in jails, hospitals, and in their homes. He found that persons who committed violent crimes while using opiates had been criminals prior to addiction (*108*). Opiates were quieting and soothing drugs which reduced aggressive impulses and made violent crimes less likely. "The heroin hero was a myth." Kolb recognized that the overwhelming physical need for the drug and its high cost caused noncriminal addicts to engage in petty thievery. Use of opiates tended to turn potentially productive persons into idle parasites. Kolb (*109*) classified addicts in five psychiatric groups; nervously normal persons accidentally addicted, neurotic persons, inebriates, psychopaths, and carefree persons with poorly crystallized personality defects. In his series of 230 persons, 86 percent presented evidence of nervous instability prior to drug use. These studies showed the importance of personality factors in the etiology of addiction.

In "Pleasure and Deterioration from Narcotic Addiction" (*110*), Kolb postulated that opiates initially induce two kinds of subjective effects in different personalities. Normal and neurotic persons did not experience any positive sensation—only the relief of physical pain or emotional stress. This, Kolb termed "negative" pleasure. Psychopathic personalities, on the other hand, experienced a sense of exaltation, called "positive" pleasure. As

tolerance and dependence developed, "positive" pleasure disappeared until the addict took the drug only to stave off symptoms of abstinence. Addiction did not cause intellectual deterioration and did not necessarily lead to moral degeneration, though use of drugs did seem to hasten and to make permanent antisocial behavior in mildly psychopathic individuals. Relapse to narcotics after cure was due to the same personality problems which played a part in the original addiction. Persons who began use of opiates either by prescriptions from a physician or by self-medication for some disease showed evidence, in 70 percent of the cases, of psychopathic or neurotic traits preceding chronic drug use (*112*).

Kolb's work seemed to have a quieting effect on the public hysteria characteristic of those times. It also laid the groundwork for the acceptance of addiction as a condition with medical aspects which should be managed, insofar as possible, by medical means. Kolb's papers are still as pertinent and as useful today as they were when they first appeared.

CLINICAL STUDIES IN PHILADELPHIA, 1925–28

In 1925, at the request of the Committee on Drug Addiction of New York, a committee for clinical studies on drug addiction was organized in Philadelphia under the chairmanship of Dr. Charles Doane. This Philadelphia committee secured the services of an internist, a clinical pathologist, a psychiatrist, and a clinical chemist who carried on their work in special narcotic wards of the Philadelphia General Hospital. The studies of this group were designed to determine whether any changes in bodily function, which could be measured by physical, chemical, or physiological means, were present during maintained addiction and acute abstinence. The results of these investigations appeared in an important series of papers in the *Archives of Internal Medicine* in 1929 (*61, 103, 128–136*).

The Philadelphia investigators realized that absolute control of the environment in which the patients are studied is essential in order to prevent vitiation of the studies by smuggling of drugs (*128*). They wrote the clearest description of the symptoms of withdrawal that had appeared in the American literature up to that time. They were unable to find any marked physical deterioration in addicts which could not be attributed to poor hygiene (*129, 131*). During acute abstinence (*134*) they observed restlessness, signs of disturbed autonomic function, fever, increased blood pressure, loss of weight, leucocytosis, hemoconcentration, increased blood sugar, negative water balance, and increased excretion of uric acid. Despite these spectacular changes, they were unable to reach a conclusion as to whether the withdrawal phenomena were due to a real physiological derangement, were purely "psychic," or even feigned. They concluded that some new approach was necessary to reveal the factors which induce and maintain the state of addiction, and which were responsible for the abstinence symptoms. They made some spectacular observations on tolerance

(*134*), giving as much as 1.3 gm. (20 gr.) of morphine intravenously in 56 minutes to an addict, without causing serious toxicity.

These investigations of the Philadelphia group were the first attempt to apply modern clinical laboratory techniques to the study of addiction. The negative information was as important as the positive since it indicated areas in which further research was likely to be unproductive. Since these studies appeared, it has not been possible to maintain that addition to morphine causes marked physical deterioration *per se*. The method of observing the addict under controlled conditions during maintained addiction and withdrawal foreshadowed the procedure for studying cycles of addiction which was later used extensively at Lexington.

THE MAYOR'S COMMITTEE IN NEW YORK, 1927–29

In 1927, Mayor James J. Walker of New York City, at the request of the Commissioner of Correction, appointed a committee known as the Mayor's Committee on Drug Addiction to formulate recommendations concerning the care of the drug addicts coming under the jurisdiction of the New York Department of Correction. The second chairman of the committee was Alexander Lambert who has been referred to above. A psychiatrist, Dr. Charles Schultz, was in direct charge of the studies which were carried out in the Psychopathic Division of Bellevue Hospital. The committee was primarily concerned with collecting historical, physical, and psychiatric data, and with evaluating the treatments of abstinence in vogue at the time, particularly the hyoscine (*120*) and "narcosan" (*123*) treatments advocated by Lambert.

The results of these investigations were published in *The Journal of the American Medical Association* (*121*) and in the *American Journal of Psychiatry* (*122*). Three hundred and eighteen patients were studied. Evidence of psychiatric abnormalities, chiefly inadequate personality and constitutional psychopathy, was observed in 87 percent of the patients, confirming Kolb's thesis of the importance of psychiatric factors. Physical deterioration was due to poor hygiene rather than to direct effects of opium.

The committee adopted three principles in assessing withdrawal treatments which are still in use today: (a) Strict control of the environment in which the studies were made, (b) use of matched clinical control subjects, and (c) keeping the observers unaware of the exact nature of the drugs used in treatment. They developed a method of rating the intensity of abstinence which, though subjective, proved workable, probably because of the "double-blind" technique of clinical design. They showed that the hyoscine, belladonna, and "narcosan" treatments were not only useless but actually harmful. This finding must have been a severe blow to Alexander Lambert, who proved himself to be a man of stature and integrity by accepting the findings and signing the report. The only treatments found to be of any value consisted of rapid but controlled reduction of morphine and codeine. The committee also concluded that no form of

treatment "obliterated the craving" for narcotics and that addiction had psychiatric roots. They advocated the establishment of a special institution—not a prison—which would attempt to rehabilitate addicts by means of vocational, social, and psychiatric treatment.

The report of the Mayor's Committee is a milestone since it was the first study of addiction in which controls were used. The principles established by that committee are still used at Lexington in the evaluation of new treatments for abstinence.

CREATION OF THE NARCOTIC FARMS AND ESTABLISHMENT OF THE DRUG ADDICTION COMMITTEE

In 1929, the Congress, realizing that addiction was a problem with medical aspects, passed legislation establishing two narcotic "farms" for the rehabilitation of addicts convicted of violation of the federal narcotic laws (Public Act 672, 70th Congress). Provision was also made for admission of patients on a voluntary basis. The law provided that the Public Health Service would investigate the cause, treatment and prevention of drug addiction and would disseminate information on these matters. Thus, the Service was given a mandate to conduct research in addiction. Operation of the narcotic farms, later renamed Public Health Service Hospitals, was vested in a new administrative unit of the Public Health Service, the Mental Hygiene Division.

In the same year, a Committee on Drug Addiction was established within the Division of Medical Sciences of the National Research Council, utilizing funds granted by the Bureau of Social Hygiene of New York City and by the Rockefeller Foundation. The chairman of the committee was Dr. William Charles White, and the membership included persons prominent in the fields of chemistry and pharmacology. Mr. H. J. Anslinger, the Commissioner of Narcotics, and Dr. W. L. Treadway, the first Chief of the Mental Hygiene Division of the Public Health Service, were also members.

The major research objective selected by the committee was an attempt to develop drugs which would have the desirable effects of morphine without having the addictive properties. This program was implemented by the establishment of a chemical laboratory at the University of Virginia, under the direction of Dr. Lyndon F. Small, who, with his collaborators, synthesized derivatives of morphine. In order to determine the biological effects of these new substances, a pharmacology laboratory, headed by Dr. Nathan B. Eddy, was established in Dr. C. W. Edmund's department at the University of Michigan. The activities of these laboratories are described in another paper in this symposium, "Laboratory Approach to the Problem of Addiction."

It was, of course, absolutely necessary to study promising new drugs clinically. The Public Health Service offered its cooperation in determining clinically the addictiveness of new drugs developed in the com-

mittee's program. This eventually led to the establishment of a clinical research unit at the U.S. Penitentiary Annex at Leavenworth, Kans., where most of the addicts in the Federal prison system were housed at that time. From 1929 on, much of the history of clinical research in addiction is closely entwined with and a logical result of the Drug Addiction Committee's approach.

In addition, the Drug Addiction Committee arranged for clinical studies on the use of opiates for relief of cough, to be conducted at Middlesex Hospital in Boston under the direction of Dr. Lowery Davenport (*37*), and on relief of chronic pain in patients with cancer, at Pondville Hospital, under Dr. Lyndon Lee (*126*). Unfortunately, lack of space precludes an examination of the results of these two projects.

EPIDEMIOLOGICAL INVESTIGATIONS, 1929–30

Preparatory to opening of the narcotic farms, Dr. W. L. Treadway (*214, 215*) made epidemiological investigations of drug addiction in 1929 and 1930. Since the primary purpose of the new institutions was the treatment and rehabilitation of offenders against the narcotic laws, Treadway collected data on persons convicted of violating these laws. He agreed with Kolb that there were less than 150,000 addicts in the United States. Drug addiction was concentrated in the slum areas of large cities but also occurred diffusely throughout the country. No social class was completely immune. All races were affected, but addiction was more common among Chinese and, even at that time, the number of Negro addicts was out of proportion to the percentage of Negroes in the population. Addiction was due to contact with drugs, but psychiatric factors were of prime importance. Treadway recognized that public policies must eventually take into account and deal with the biological and social factors important in the genesis of personality defects leading to antisocial behavior, including addiction. He felt that the chief hope for solution of these problems lay in research.

CLINICAL RESEARCH AT THE LEAVENWORTH PENITENTIARY, 1933–35

In 1933, a young Public Health Service officer, Dr. C. K. Himmelsbach, arrived at the U.S. Penitentiary Annex at Leavenworth, Kans., to initiate the clinical part of the program of research devised by the Drug Addiction Committee. Dr. Himmelsbach had been selected and given training for this work at Michigan with Eddy, and at Western Reserve, in Sollman's department. He was destined to become an outstanding figure in clinical research on addiction. The activities of the research unit at Leavenworth have been commemorated in the popular novel "My Six Convicts" (*235*), but anyone reading that book should keep in mind that it is—as the author states—pure fiction and is not history, but an exaggerated caricature of some of the activities of men in confinement.

Himmelsbach made use of the principles developed by Light, et al. (*128*) and by the Mayor's Committee (*121, 122*). He required strict control of the environment, proved that patients selected for study were physically addicted by preliminary withdrawal, estimated the degree of their dependence by determining the least amount of opiates which would just prevent the appearance of abstinence, and used clinical control subjects. The program at Leavenworth was necessarily limited by the meager facilities and the small number of employees. Himmelsbach's immediate goals were to develop an improved method for measuring the intensity of abstinence by careful observation of patients during abrupt withdrawal, development of a system for determining the addictiveness of new analgesics, and making a beginning on the pathological physiology of addiction.

Progress towards these goals was rapid. Himmelsbach (*74*) originated a system for evaluating the intensity of abstinence from morphine, which was based on the presence of objective observable signs, some quantifiable (blood pressure, temperature, etc.), and some nonquantifiable (gooseflesh, etc.). This was an improvement over the method devised by the Mayor's Committee (*122*) since it was not based on subjective estimates of the intensity of the symptoms. Four grades of intensity were used. Himmelsbach's system was not only objective but simple, and is still used in the admission service at Lexington.

In order to study the relationship of chemical structure to addictiveness, Himmelsbach developed the substitution hypothesis which was first formally stated in a paper on codeine addiction (*74*):

> The rationale for this procedure (. . . substitution . . .) is found in the following hypothesis: Given valid addiction to morphine, a definite syndrome of abstinence phenomena will set in shortly after its abrupt and complete withdrawal. Hence a substance that can be completely substituted for morphine without permitting the appearance of that syndrome may not be addicting in itself, even though it is an adequate substitute. If stability can be maintained by the substituted product over a period sufficiently long to rule out abstinence resulting from withdrawal of the morphine, and can then be withdrawn without permitting the appearance of that syndrome, it is probably an adequate nonaddicting substitute for morphine; but if abstinence phenomena do set in, that substance is addicting.

This method of substituting a new drug for morphine in patients or animals addicted to morphine remains to this day the method most often used in assessing the addictiveness of new analgesics. The importance of this tool to public health is best emphasized by recalling that dihydromorphinone, or dilaudid, was originally not controlled by the U.S. narcotic laws and was even described as nonaddicting by eminent clinicians. Using the substitution technique, King and Himmelsbach (*106*) showed how erroneous this opinion was.

In May 1935, the first Federal "Narcotic" Farm was dedicated at Lexington. Due to the interest of the first Medical Officer in Charge, Dr. Lawrence Kolb, and that of Dr. Treadway, research was one of the major activities of the institution from the beginning. The program of research was far broader than the study of the relationship of chemical structure to addictiveness envisaged by the Drug Addiction Committee. Under the leadership of Himmelsbach, it included psychological, psychiatric, physiological, biochemical, and pharmacological aspects. The entire original senior staff of the hospital was involved to some extent in research.

Pharmacological Investigations. This phase of the program was the direct responsibility of Himmelsbach who was concerned with two major problems: evaluation of the many treatments of abstinence and the relationship of chemical structure to addictiveness. Himmelsbach continued his intensive study of the manifestations, intensity, and course of abstinence from morphine finally collecting observations on 65 cases. The data obtained were subjected to extensive statistical analysis and formed the basis for improved systems of measuring the intensity of abstinence, the "daily" (*116*) and "hourly point score" methods (*76*). The power of the instruments forged by Himmelsbach is shown by the fact that the "point-score" methods still remain the standard technics for evaluation of the addictiveness of new drugs in man.

The clinical field of addiction has always been plagued by extravagant claims made for new withdrawal treatments. Every potent new type of central nervous system drug, each new hormone and each new vitamin is certain to be reported to be a "cure" for addiction. The fixation on withdrawal treatments is due to the failure of many physicians who, unmindful of the psychiatric components of addiction, mistakenly believe that the addict will be "cured" if only he can be relieved of his drug. Frequently new treatments are based on pure speculation, sometimes they are the productions of charlatans, and almost invariably proper controls are not used in their evaluation. Since such treatments are often more dangerous than abrupt withdrawal, objective evaluation is necessary for the protection of the patients. Using his improved methods, Himmelsbach showed that "rossium" (a pyrazalone compound) (*75*), thiamine, atropine, pyridoxine, prostigmine (*85*), and many other treatments were of no real value. Confirming the Mayor's Committee, Himmelsbach (*79*) found that small amounts of opiates were the best treatment of the withdrawal symptoms.

The results of the investigations dealing with the relationship of addictiveness to chemical structure were reported in three papers (*76, 77, 202*). Though certain chemical changes were shown to affect the degree of addictiveness, such alterations, unfortunately, paralleled changes in analgesic potency so that no significant dissociation between these properties of the morphine molecule was attained.

In 1938 the first of the synthetic analgesics, meperidine (demerol), was introduced into clinical practice. The drug, which was discovered in Germany, is not a derivative of any opium alkaloid and so could not be controlled by the Harrison law. Himmelsbach showed that this drug had addictive properties similar to those of morphine (*81, 83*) despite the dissimilarity in chemical structure. The drug was brought under control by a special law, the "Isonipecaine Tax Act." The wisdom of this action has since been confirmed by the appearance of cases of "primary" addiction to meperidine (*179*).

Physiological, Biophysical and Biochemical Investigations. These areas were the joint responsibility of Drs. Himmelsbach, Edwin G. Williams, Fred W. Oberst, and H. L. Andrews. The method of studying patients through "cycles of addiction," in which each patient served as his own control, was a natural development of the opportunity of making observations over long periods of time on prisoner patients. Light and his collaborators had studied addicts during stable, maintained addiction, and the first 48 hours of abstinence, but these investigators were unable to extend their observations beyond this limited time. Using a battery of physical and biochemical measurements, Himmelsbach (*80*) found that physical recovery from addiction was an irregular process requiring 2 to 6 months for reattainment of physiological stability. He developed an hypothesis (*82*) which postulated that tolerance and physical dependence are due to changes in the activity of homeostatic mechanisms mediated via central (mainly hypothalamic) regions of the brain. Morphine is presumed to affect these areas, calling into play autonomic responses which tend to restore homeostasis by opposing the effects of morphine. These adaptive reactions become enhanced with repetition of the dose of morphine so that larger doses (tolerance) are required to overcome the effects of the morphine. When the morphine is discontinued, the adaptive responses proceeded unchecked, leading to abstinence. Himmelsbach used the cold pressor test (*78*), peripheral blood flow (*84*) and other indicators of the autonomic state in various phases of the addiction cycle. During stabilized addiction, the blood pressure rise on application of cold is greater than normal, suggesting hyperirritability of autonomic centers during addiction. Resting blood flow in the hands is lower in addicts and postaddicts, indicating increased sympathetic tone in such patients.

Drs. E. G. Williams and Fred W. Oberst undertook to study total energy and water exchange in an exhaustive and tedious study which required 2 years for completion in two subjects (*233*). This investigation is important chiefly because of the large number of negative findings, and because of suggestions of changes in body water. In a more detailed investigation, Williams (*232*) showed an increase in the water content of blood during addiction, which later was proved to be due to a mild anemia and decreased red cell mass (*90*).

Perhaps the most important biochemical work accomplished was a group of studies on the fate and excretion of various opiates, conducted by Oberst (*156–159, 161, 162*). He was able to show that, in man, morphine was excreted in "free" and "bound" forms (*157*), acid hydrolysis being necessary to free the "bound" drug. An increase in glucuronide excretion in the urine which paralleled the increase in dose of morphine suggested that morphine was bound as the glucuronide (*159*). Heroin was deacetylated and excreted as morphine (*161*). Very little morphine was found in body fluids other than urine. Changes in the ability of the body to store, conjugate or excrete morphine did not account for tolerance or dependence. Later, Oberst (*160*) studied the excretion of meperidine and found that only a small fraction of that drug was excreted in unchanged form.

Biophysical techniques became a part of the armamentarium of the Lexington laboratory after Dr. R. H. Felix persuaded a young biophysicist, Howard L. Andrews, who had worked with Jasper, to join the group. Andrews constructed what was perhaps the first electroencephalograph south of the Ohio and made studies of cortical potentials during cycles of addiction (*3, 6*). He found that single doses of morphine had little effect on the electroencephalograms of nontolerant men; during maintained addiction, a high percentage of "alpha" (waves of frequency of 10 per second) is observed; large, slow (6 per second or "delta") waves are seen in the tracings of patients receiving large amounts of morphine; high alpha output is maintained in many addicts 12 months after withdrawal. Andrews hypothesized that morphine reduces the cortical excitatory state (*6*) and that tolerance to this effect develops at different rates in different individuals.

Andrews also studied the perception of pain, and found that the elevation in pain threshold after administration of opiates (*4*) is variable, and smaller than expected from the data of Hardy, Wolff, and Goodell from nonaddicts. The change in the psychogalvanic response (*5*) after opiates suggested that morphine and other opiates alter the "reaction" to pain as much in postaddicts as in nonaddicts, thus explaining relief of pain despite the small changes in perception of pain.

Psychological Studies. Ralph R. Brown initiated clinical psychological studies at Lexington. He examined the idea, quite prevalent at the time, that addicts are physically inferior in an anthropometric sense (*17*) and found that the body build of the Lexington addicts is within normal limits. There is no relationship of addiction to "introversion" (*16*). The intelligence of the drug addict (*20, 21*) is normal, the mean intelligence quotient (IQ) being 101. As judged by the Rorschach test (*18*), morphine reduces the number of neurotic responses and increases the number of responses indicative of introversion and phantasy living. During a cycle of addiction (*19*) morphine reduces the intensity of the psychophysiological responses to "disturbing" word stimuli, particularly the electrodermal response, indicating a reduction in the disturbing effects of emotional stress.

Psychiatric Studies. One of the original members of the staff of the Lexington Hospital, Dr. Victor H. Vogel, was an accomplished hypnotist with a deep interest in suggestibility. Using the degree of postural sway in response to standard suggestion on a phonograph record, he measured suggestibility in groups of nondelinquent, delinquent but nonaddicted (*220*), addicted (*221*), and formerly addicted males. The degree of suggestibility of delinquents does not differ from that of nondelinquents. Actively addicted males are more suggestible than nonaddicts but such hypersuggestibility disappears rapidly after discontinuation of opiates. Chronic alcoholics (*222*) are no more suggestible than nonalcoholics.

Another member of the original Lexington staff, Dr. R. H. Felix, studied detailed life histories of addicts (*53, 55*). He revised Kolb's classification of the personality types of addicts by combining the inebriate, psychopathic diathesis, and psychopathic classes of Kolb into one group. In common with other writers, Felix stressed the importance of the psychiatric factors in the etiology of addiction and relapse. He also developed behavior rating scales which proved useful in studying experimental addiction to codeine (*54*).

Dr. M. J. Pescor (*166–170*) undertook a tremendous project, making detailed tabulations of data taken from records of 1,036 patients admitted to the Lexington Hospital in 1936 and 1937. Several hundred classifications of information were used. Only a few examples of the findings can be given. Even in 1936, 16.5 percent of addicts began use of drugs before the age of 19; only 3.8 percent of the patients were judged to be psychiatrically normal; 75 percent of the patients did not have antisocial records prior to addiction; 40 percent of the patients relapsed to drugs; 13 percent were thought to be abstinent; and the status of 40 percent could not be determined. Pescor's papers still represent the largest, most detailed, body of clinical information concerning addicts in the United States. A repetition of Pescor's studies is badly needed today.

IMPORTANT EVENTS, 1939–50

In 1939 the funds available to the Drug Addiction Committee were becoming exhausted, so arrangements were made for Dr. Small, Dr. Eddy, and supporting staffs to come to the National Institutes of Health where, as a section of the Laboratory of Chemistry, and later as sections of the National Institute of Arthritis and Metabolic Diseases, the chemical and pharmacological investigations initiated by the Drug Addiction Committee were continued as a part of the program of the Institutes. The Drug Addiction Committee closed out its affairs in its final report (*151*) in 1941. When the United States became involved in the war, it was necessary for Drs. Small and Eddy to shift from research on analgesics to investigations of antimalarial drugs, so that until 1946, their original program was in abeyance.

The war also had a great impact at Lexington. Andrews, Oberst, and Brown all left to engage in work more directly related to war effort. Himmelsbach, after 9 productive years at Lexington, was transferred to other duties and was replaced by the writer. In 1945, Dr. E. G. Williams, the only remaining member of the original Lexington unit was called to the National Institutes of Health.

In 1946, U.S. intelligence teams found that the Germans had discovered and used another class of drugs, the methadones, potent analgesics, with chemical structure different from the structures of both morphine and meperidine. This made it apparent that a large number of synthetic analgesics were likely to be discovered. In order to prevent the introduction of such potentially addictive drugs into uncontrolled clinical use, the Congress enacted a law making it possible to apply narcotic law controls to any substance that had "addiction-sustaining" or "addiction-forming" properties similar to those of morphine or cocaine, and the United Nations adopted a similar convention, making possible the imposition of international controls on new synthetic opiate-like substances. A Committee on Drug Addiction and Narcotics was reestablished within the National Research Council under the chairmanship of Dr. Isaac Starr, in 1947. One of the functions of the new committee was to advise the Government concerning the addictive properties of new drugs, but it was also able to obtain funds for the support of fundamental investigations on addiction in animals at the University of Michigan, and basic studies on pain relief in Boston and other areas.

In 1948 the Mental Hygiene Division of the Public Health Service was abolished and the National Institute of Mental Health was activated. The treatment function at Lexington was taken over by the Division of Hospitals and the research function passed to the National Institute of Mental Health. The research unit at Lexington, thereafter, has been called the NIMH Addiction Research Center.

Beginning in 1949, ominous increases in addiction became apparent. Many of the new addicts, as in the past, were young persons, so that public concern mounted. By 1951 the Lexington hospital was crowded beyond capacity.

THE ADDICTION RESEARCH CENTER, 1945–58

Pharmacological Program. The multitude of synthetic analgesics that began to appear after the end of World War II had a marked effect on the pharmacological program at the Addiction Research Center. In rapid succession, the methadone (*97*), morphinan (*58*), dithienylbutene (*94*) and hexamethyleneimine (*59*) groups, all potent analgesics differing in chemical structure from morphine, were shown to possess addictive properties similar to those of morphine. The large number of variations possible in each chemical type of analgesic and the desire of pharmaceutical manufacturers to market the most promising of the drugs meant that the Addiction

Research Center had to undertake the testing of many of them, irrespective of theoretical considerations. The pharmacological program, therefore, became in part a technological program carried on to protect the public by preventing the introduction of potentially addictive substances into uncontrolled clinical use. The examples provided by heroin, dilaudid, and meperidine, all of which were originally introduced without being subject to controls under the narcotic laws, show the necessity for work of this type.

The need for drug testing was further increased during the Korean War, when the Department of Defense became concerned about synthetic substitutes for codeine. Although adequate synthetic substitutes for morphine were available, no synthetics were at hand which were as safe as codeine for relief of cough or for treatment of mild pain. Since 75 percent of the morphine processed from opium was converted into codeine, stockpiling of opium was necessary in event that our sources of opium were cut off by war. Working in conjunction with the Committee on Drug Addiction and Narcotics and with the pharmaceutical manufacturers, two potentially useful codeine substitutes of low addictiveness—the antitussive dextromethorphan (*93*) and the analgesic, d-propoxyphene (*60*)—were discovered and are currently being marketed.*

One of the most important discoveries in this period was the development of the opiate antagonist, nalorphine (*227*), and related substances. These drugs, though chemically related to morphine, are dissimilar pharmacologically. They are not addicting in the same sense as morphine. They do not create physical dependence (*95*) and will not support it in an addicted person; rather, being antidotes for morphine, they precipitate abstinence when given to addicted persons and, so, can be used to diagnose addiction (*227*). Since these drugs have been reported to relieve pain (*124*), they represent the nearest approach to a nonaddicting analgesic that has been made.** Unfortunately, they are not practical analgesics because of severe mental side reactions they can induce. The lead obtained with these antagonists is being followed up.

During World War II, when supplies of opiates in the illegal market were quite short, chronic use of barbiturates by opiate addicts became quite common. This led to investigations at the Addiction Research Center which showed that a kind of physical dependence, completely different from

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*Additional codeine substitutes have been developed since the preparation of the manuscript. New antitussives include 1-propoxyphene and narcotine. 1-(p-Chlorphenethyl)-2-methyl-6, 7-dimethoxy-1,2,3,4-tetrahydro-isoquinoline (I–K–1, Ro 4–1778/1) is a new analgesic about equipotent to codeine but without significant addictiveness.

**A congener of chlorpromazine, levomepromazine or methotrimeprazine, has now been reported to be about two-thirds as effective as morphine in relieving postoperative pain (*125*). Thus, another nonaddictive analgesic may now be available. Unfortunately, tissue irritation at injection sites, postural hypotension, and excessive sedation limit the clinical use of methotrimeprazine.

dependence on opiates, is created by chronic ingestion of large amounts of barbiturates. Following discontinuation of these drugs, convulsions and a toxic psychosis develop (*91*). A similar syndrome appears after chronic alcoholic intoxication (*96*), and chronic alcoholic and barbiturate intoxications were shown to be partially equivalent pharmacologically. The "tranquilizer," meprobamate, also creates a similar kind of dependence (*52*). This new type of addiction raises a host of new problems related to, but differing from, the problems of opiate addiction.

Physiological Studies. Wikler (*225*), working with spinal and decorticate dogs, showed that the processes underlying physical dependence are diffuse throughout the central nervous system, and that hyperirritability in reflexes mediated through multineuron arcs appears during addiction. He was able to confirm this in man, showing that typical abstinence appears following withdrawal of opiates from patients who had been stabilized on morphine for 2 weeks after prefrontal lobotomy (*229*). Morphine has effects on the reflexes in the paralyzed lower limbs of a "chronic spinal man," similar to those observed in spinal dogs; tolerance to these effects develop during addiction; and, following withdrawal of morphine, reflex changes and hyperirritability gradually disappearing over the course of 2 months are observed in the paralyzed extremities (*231*). These findings show beyond the possibility of doubt that abstinence from morphine is, partly at least, a real physiological disturbance.

During maintained addiction the urinary excretion of 17-ketosteroids and 17-hydroxycorticoids is reduced (*47, 49*). Administration of ACTH or gonadotropin causes increases in the excretion of these hormone products during maintained addiction (*48*), showing that the adrenal and testis are still responsive to stimulation by the specific pituitary hormones. The results indicate decreased activity of the anterior pituitary during addiction. They explain the consistent reports of decreased sexual drive during morphine addiction. Following withdrawal of morphine, excretion of 17-ketosteroids and 17-hydroxycorticoids is markedly increased showing that abstinence calls into play "the alarm reaction" of Selye.

Psychological and Psychiatric Studies. Morphine does not change the ability of human subjects to perceive pain but alters the disruption of behavior ("anxiety") arising from anticipation of pain (*72, 73*). Depending on the motivational state of the individual, morphine and pentobarbital may act as "depressants" or "stimulants" (*71*). These findings have added materially to our knowledge of the mechanism of analgesia.

It has always been difficult to determine whether addiction to opiates is a distinct disease or is merely a symptom of a psychiatric disorder. The latter formulation is the view most commonly held, and regardless of whether the theories of the psychobiologic or psychoanalytic schools are used to explain the personality problem, this formulation implies that choice of the drug of addiction is an accident; physical dependence is merely a com-

plication; and relapse is due to the same personality problem that was responsible for the addiction. Wikler (*225, 230*), utilizing data from pharmacological, neurophysiological, psychological and psychoanalytic studies, has developed a broader hypothesis. In this formulation, specific drugs are regarded as having specific effects on specific drives. Morphine reduces the primary drives of hunger, pain, and sex and is, therefore, specifically valuable to persons with difficulties in these areas. Physical dependence alters and reinforces the original effects of morphine, since a new and artificial biological need, the satisfaction of which—like the satisfaction of hunger—is directly pleasureable, is created. This view should be contrasted with Kolb's negative pleasure concept. Abstinence symptoms may be conditioned (in the Pavlovian sense) so that stressful situations may cause sensations which the former addict interprets as a need for morphine, thus leading to relapse. This hypothesis is an attractive formulation, but like other psychiatric theories, has proved very difficult to test experimentally.

Adolescent Addiction. The increase in addiction in young people after World War II resulted in a number of descriptive studies (11, 64, 65, 68, 86, 140, 143, 152, 178, 247) of adolescent addicts. In general, these papers emphasize the importance of social and psychiatric factors in addiction.

SUMMARY

In reviewing our material, a number of reasonably distinct periods in the history of clinical research in addiction can be defined. In the latter half of the 19th century, the condition was recognized and partially described. Between 1900 and 1920 it became more generally recognized that addiction was partly a medical problem. This period was characterized by speculation as to the "cause" of the disease, with toxic theories dominating clinical thinking, and by the development of numerous well-intentioned but useless methods of withdrawal. In the early twenties, the great importance of psychiatric factors was stressed by Kolb. During the late twenties and early thirties, the first clinical research of an experimental sort was begun, culminating in the broad pharmacological, physiological and psychological program carried on by the Public Health Service at the present time.

Despite the enormous effort and the great mass of data which have been gathered, neither laboratory nor clinical research has yielded a simple solution to the problem of drug addiction. Only a very optimistic person would predict that such a solution will soon be forthcoming. Continuing efforts along all lines of research are needed, for there are still great gaps in our knowledge. We do not actually know the entire natural history of drug addiction in our culture. Why is the age distribution of addicts similar to age distribution of other kinds of offenders? What happens to addicts after the age of 35? Though it has been shown that physical dependence has a real physiological basis, the biochemical changes that must

mediate the physiological alterations are unknown. Perhaps, most important of all is our ignorance concerning those conditions classified as personality or character disorders in the Standard Nomenclature of Disease. A greater understanding of these conditions and some method of treatment or prevention, which is practicable and applicable on a mass scale, might go far in solving drug addiction, and many other problems as well.

THE SEARCH FOR A NON-ADDICTING ANALGESIC

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History is made day by day, but we don't seem to recognize it as history until sometime later. I'm sure you all know that when we do recognize the history of research in drug addiction, we're going to recognize Dr. Seevers and Dr. Isbell as outstanding investigators and contributors to that history. The field they have covered is so broad that there are only a very few items that I shall pick out for comment.

Dr. Seevers mentioned that during the period of the first Drug Addiction Committee, more than 400 compounds were made at Virginia (*202*). The number was 488. During the past 4 years our chemists have made, and we have received from other sources, 600 compounds. Our technicians during that same period have performed approximately 4,000 screening experiments for analgesic effectiveness among those 600 compounds. Dr. Seevers also mentioned the monograph on "The Pharmacology of the Opium Alkaloids," (*119*) which has a bibliography of nearly 10,000 items. Our file of reprints, abstracts, and reports is now double that number. Not all of it is published material because we have had the privilege of receiving a great many unpublished reports.

Going back to the period of the first Drug Addiction Committee, the basic concept of the cooperative effort, of course, was to try to find an association between components of chemical structure and activity. Of the 488 compounds that were made, not all were morphine derivatives. The chemists had the idea not only of modifying morphine, but of starting with what even then were or might have been thought of as moieties of the morphine structure and building up from them in the hope of approximating or bringing out some of the morphine-like pharmacological properties. Dr. Erich Mosettig made a tremendous contribution to this field, particularly in the building up of substances from these so-called moieties. He came to the Institutes at the same time as Dr. Small and myself. In recent years his work has been diverted, but he maintains his interest in this field,

and we have been able to call upon him frequently for advice and help from his tremendous knowledge and ability in chemistry.

Our objective was to try to find a safer analgesic to dissociate different effects of morphine. I think we succeeded to a certain extent, even with the crude methods we had then. We were able to show that there is some association between chemical structure and different facets of morphine effects and that one can alter them unequally, sometimes in different directions, by appropriate chemical modification. We were also able to show that even in fairly simple structures built up from morphine moieties, some of the characteristics of morphine can appear (*202*). This whole problem of action relationships has been tremendously exploited since the discovery of meperidine. The discovery of the analgesic properties of meperidine was an accident. That was not what was being sought; and it was quite surprising to find that a structure like meperidine could have analgesic effects. The chemists went back to reexamine the structure of morphine and read into it some characteristics of the structure of meperidine. Other new synthetic compounds were then discovered as the result of planned research. Methadone was so produced; the dithienylbutenes were so produced; the hexamethylenamines were so produced; the morphinans were so produced; and other new types are being produced today in the same way, that is, by a logical approach to structures which may possibly have analgesic activity (*13, 41, 43*).

Dr. Seevers referred to the reports to the United Nations on the relationship between analgesic activity, addiction liability and chemical structure (*13, 44, 45*) and he made the very just criticism that the comparisons were based on the one hand on data derived from animal experiments and on the other hand on data derived from human observations. Nevertheless, a reasonable parallelism in analgesic activity and addiction liability was shown, and we also think that there are some very significant exceptions. Today, we could show you some much more important exceptions than were then recognized. I am not convinced that analgesic activity and addiction liability must inevitably go hand in hand.

There has just been published the fourth in this series of reports to the United Nations, a 300-page document in the *Bulletin of the World Health Organization* (*45*), which attempts to review clinical experience with some 30 analgesic compounds, almost all of them in commercial production and in use today. The emphasis is on analgesic activity and clinical experience with respect to addiction liability. This was not meant to, and does not fully meet the criticism of the earlier reports with respect to a comparison of heterogeneous data derived from animals and man, but to some extent at least it does narrow the gap between laboratory and clinical findings.

Dr. Isbell mentioned the analgesic effectiveness of nalorphine and its lack of addiction potentiality (*95*). In a sense this is an answer to the original search launched by the Drug Addiction Committee. It is not a practical answer, as he pointed out, but it may provide a very important lead. It is

conceivable that within the many relatives of nalorphine, there may be one which will retain enough antagonistic effect to upset the development of physical dependence, if that's the way it works, and which yet will have a practical amount of analgesic activity without too severe side effects. In this connection, Dr. Keats made a very cogent observation. He said that we had been working with substances to relieve pain, to make the patient comfortable, to make the patient feel good. He wondered whether we were ever going to find an analgesic with that character which would be nonaddicting. He thought perhaps we were looking in the wrong direction, and should rather be trying to find out how uncomfortable we could make the patient and yet relieve his pain. If we could hit upon the right degree of discomfort so far as the side effects were concerned and at the same time relieve his pain, we might have our nonaddicting analgesic (*104*).

As you all know, heroin was introduced as a nonaddicting analgesic and as a substitute for morphine (*41*). I think that this was in very considerable part due to the lack of appreciation or understanding of cross tolerance. Physicians of that time were certainly becoming aware of morphine withdrawal sickness. They knew their patients were becoming dependent on morphine. They gave them heroin. The patients got along satisfactorily. The physicians concluded that heroin had relieved the morphine addiction. The heroin could be given in smaller amounts because it is more potent. It was only later that they realized that their patients were really more addicted to heroin than they had been to morphine in the first place. They began to appreciate that the heroin had simply substituted for morphine, sustaining the addiction, that the individual was cross tolerant to the heroin, as tolerant to the heroin as he was to the original morphine.

Later Dilaudid was introduced with the claim that it was relatively nonaddicting. An outstanding physician was quoted in the popular press as saying that it was more powerful than morphine and as harmless as water. I think that again it was lack of sustained and controlled observation that led to such a claim. If only a few individuals had been kept on Dilaudid even for a short period of time and then abruptly withdrawn and carefully observed, no such statement would have been made. Dr. Isbell, I believe, rates Dilaudid as approximately on a par with heroin in addiction potential. Heroin is easy to make, it is potent, the amount required is small, it is easy to smuggle, easy to dilute with other substances, and has therefore become the most popular drug in illicit traffic. Dilaudid is difficult to make, its source material is not readily available, not as readily available as morphine from which heroin is made, and its production has been carefully controlled so that very little of it has appeared in illicit traffic. There have been, of course, occasional thefts and occasional forged prescriptions. Both heroin and Dilaudid are undoubtedly valuable drugs medicinally. They could be

used in place of morphine. But I think we can stand the ban on heroin if it will in any manner help the situation with respect to illicit traffic.

Meperidine also was introduced as a relatively nonaddicting substance. Its addiction liability was established at an early stage in the work at Lexington. Perhaps this played a major role in the failure of acceptance of the Lexington findings with respect to what addiction liability could be expected in clinical practice. The Lexington observations had been made on addicts. There was certainly a reluctance at that time, and to a certain extent there still is, to accept findings in the addict as a basis for prediction of what may occur in clinical practice. Unfortunately, the original statements about the relative nonaddicting character of meperidine have persisted. Many physicians and many nurses have turned to the use of the drug for their own pain relief, and many physicians have used it more freely in patients on the basis of the persistence of this claim than they would otherwise have done. If we could only convince physicians in general that the same precautions need to be used with respect to meperidine as with morphine, I think we would have a lot fewer meperidine addicts.

Ketobemidone is another case that we might cite. It came to our attention about 10 years ago. It was tested at Lexington and shown to have very strong addiction-sustaining potency. When it was abruptly withdrawn, it produced an abstinence syndrome of short duration but of great intensity. Fortunately, a representative of the interested pharmaceutical company was present at the time that the withdrawal syndrome with ketobemidone was demonstrated. He went back to his organization and said, "We want no part of that particular drug." Subsequently there was no development of ketobemidone in this country. The same information was made available in Europe, but its significance was not accepted. The drug was put on the market and very rapidly reports of secondary and primary addiction to it appeared in the literature. Not long ago a survey on addiction to ketobemidone was made in Europe. There was found a relatively small number of either primary or secondary ketobemidone addicts. The survey, however, neglected to compare this number with the total amount of the drug being used. When this is taken into account one finds that the number of addicts is unusually large rather than relatively small. The United Nations Narcotics Commission some years ago passed a resolution suggesting the banning of ketobemidone from medical practice as they had previously suggested the banning of heroin throughout the world. That resolution has not been completely implemented.

Recently, a firm in Belgium sent us a new compound, commonly referred to as R–875, distantly related to isomethadone. As evidence of the recognition now being accorded the Addiction Research Center at Lexington, they asked for it to be tested there for addiction liability. It proved to be very addicting, much more so than morphine, just as it had been shown in the laboratory to be more potent as an analgesic than morphine.

The producers felt that it had other advantages and they put it on the market anyway, but they did do this: before it went on the market, they requested the Belgium Government to place it under narcotics control within Belgium and to request its placement under international narcotics control by the United Nations. Both of those things were done. There is one other interesting fact about R–875. It is the first synthetic drug to break down the barrier against synthetic analgesics in France since the introduction of meperidine.

The Addiction Research Center of Lexington has given us a very important tool in nalorphine. This compound is now being used in a number of ways, not only as a lifesaver in opiate poisoning, but as a precipitant of abstinence in the detection of addiction. It is being used diagnostically, as you know, by police, perhaps not with adequate precautions, but it is said, nevertheless, that it is a definite deterrent because the addicts feel that they can't beat that game. It is also being used in an experimental way to determine the rate of development of physical dependence under clinical conditions.

I started my first experiment on morphine tolerance 36 years ago. I'm getting near the end of the road. We haven't reached the goal that has been before us for so many years and very probably I'm not going to reach that goal. But I'm not willing to admit that the goal can't be reached. I think there ought to be a safer analgesic than any we now have, and I believe that one day we are going to find it (*42, 46, 99, 100, 146, 187*).*

DISCUSSION

Starr: Let me invite Dr. Clifton K. Himmelsbach of the National Institutes of Health, whose work has been repeatedly referred to by our speakers, to open the discussion.

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*The study of opiate antagonists as analgesics with less or no addiction liability has made progress in the last 2 years and is being pursued very actively. A wide range of compounds with morphine, morphinan or benzomorphan as the basic structure have been made in which variation in the substituent on the nitrogen has developed an antagonistic action ranging from a 50th to 8 or 10 times that of nalorphine. Some of these antagonists are analgesics in man and some of them do not produce the disturbing effects which prevented the practical use of nalorphine for pain relief. The prospect is brightest that a good analgesic in the range of morphine potency with little or no addiction liability will be found within the opiate antagonist group.

In the reports to the United Nations on chemical structure and action referred to above, certain generalizations on the relation of chemical structure to analgesic action and addictive properties were thought to emerge. In the few short years since, exceptions to each of those generalizations have been demonstrated and analgesic action, sometimes many, many times greater than that of morphine, has been exhibited by a wide variety of chemical structures. Apart from the antagonists, significant separation of analgesic and morphinelike subjective responses and ability to sustain a morphine addiction or to produce a primary physical dependence is now being exhibited in a new chemical class. The time is near when the whole field must again be reviewed to determine if new generalizations are possible and new most important leads for future work are at hand (99, 100, 146, 187).

690–053—63——10

Himmelsbach: We appreciate very much Dr. Isbell's kind remarks about our work. We enjoyed the work, and hope it has been of some help. It was early; work that has been done since then has been superb. We are proud to have had a part in laying some groundwork for the splendid contributions that have followed. When I say "we," I really mean it because Ed Williams, Fred Oberst, Howard Andrews, Ralph Brown, and I worked as a team. The plan given us was to conduct our various studies in a cooperative and coordinated fashion. I suspect that Dr. Treadway, who developed the plan, knew that this would prove more successful, more enjoyable, and more productive than working alone. I suspect that this was one of the early multidisciplinary efforts in clinical research, and that we were one of the first clinical groups privileged to have a biophysicist as a member of the team. It was Dr. Andrews who made the observation and proved that there is a relationship—the addict was right again—between dose and intensity of the abstinence syndrome.

We were all very young officers in the Service and very young in this field. We were provided an opportunity to gain such knowledge as we could to initiate the research. Beyond this, we were provided an opportunity of communicating with experts at regular intervals. Several times a year we had the privilege and pleasure of meeting with Dr. Small and Dr. Eddy, and their coworkers. We had the opportunity also of meeting with the Drug Addiction Committee of the National Research Council and of presenting our views, findings, and plans in person before them. We benefited by their suggestions and criticisms. The easy communication among the active people in the field was most helpful.

We had plenty of patients who were rather heavily addicted. They came to us with a quite strong physical dependence and very little else wrong with them. The clinical material, therefore, was abundant. The number of doctor addicts was disproportionately high, and it always has been. I suppose over a period of 10 years we saw a hundred or more of them.

In those days physicians paid almost exclusive attention to the treatment of withdrawal. When they spoke of treating drug addiction, that is what they had in mind and were concerned about. This accounts for the amount of time we had to spend in working on withdrawal treatments and trying to learn whether or not they had any value. The surprising thing to us was to discover that the doctor had at his command the best available medicine. It was found that the morphine abstinence syndrome could be substantially mitigated by the careful use of morphine itself. Following Dr. Kolb's suggestion, it was easy to develop a fairly satisfactory means of gradually separating the man from the drug. We found no one whom we couldn't take off under the methods that were developed in those days, and most patients seemed to us healthier at the end of withdrawal from even heroic levels of drug use.

Dr. Treadway, who is an international statesman in the field of drug addition, mobilized and set into motion a number of forces designed to

reduce the incidence and to actively prevent drug addiction. His represented the public health approach of preventive medicine. The approach of Dr. Kolb was more clinical. Both, I think, have been very effective. I share Dr. Eddy's view that important and useful results will follow further research in this field. I think it might be worthwhile giving consideration to the need for additional legislation for the support of further research, with special consideration given to the social and psychiatric phases of addiction which cannot be thoroughly analyzed within an institution.

Levine: My name is Samuel Levine. I am from the Federal Narcotics Bureau in New York City.

My question is directed to Mr. King. In most of his writings up until recently he has taken issue with the action of the Federal Narcotics Bureau, claiming that we have been acting contrary to the decisions of the Supreme Court. I noticed, however, that in this symposium he did not touch upon that particular point. The question is this: Does Mr. King still believe that our actions are contrary to the dictates of the Supreme Court and, if so, what action does the legal profession intend to take to restrain the Federal Bureau of Narcotics from such "illegal action?"

King: I was discussing principally the British system of narcotic drug control. I think the only position I have taken with respect to the enforcement policies of the Narcotics Bureau in this respect is that there is, to put it mildly, a grave question about the Bureau's insistence that no treatment of an addict by the administration of narcotic drugs is consistent with the law. That is not how the law has been interpreted by the Supreme Court and subsequently by circuit courts following the Linder case.* The courts have said again and again that the administration of a reasonable amount of narcotic drugs for the treatment of the symptoms of addiction itself, within the bounds of fair medical practice, is not a violation of the Harrison Act. The judges have even said that if the act were so rigidly interpreted it would be unconstitutional—they have even speculated that far.

I do not think the policies of the Bureau enforcementwise are truly squared to such holdings by the courts. There is uncertainty, and I think there is a great need for clarification on both sides of the argument.

Kerr: Mr. Moderator, my name is George Kerr. I'm from the Michigan State Police. My remarks will be directed to Dr. Chapman. Last fall, in our State, Dr. Chapman made a statement that the only cured addict was a dead one. Would he care to explain that?

Chapman: I guess that's true of any disease. In the course of many informal discourses on this subject, I may well have referred to the statement by other people in this field that "the only cured addict is a dead one." Certainly, death cures a great many things. At least it cures them as far as we are concerned. This does not mean, nor should it be construed, that I think drug addiction cannot be "cured," prior to a patient's

**Linder* v. *U.S.*, 268 U.S. 5 (1925).

death. The physiological and psychological basis, background, etiology, the individual personality characteristics, and the circumstances of his addiction are such that throughout an addict's life we would expect him to be constantly subject to the possibility of relapse to drugs, just as he was perhaps especially susceptible to finding them attractive in the first place, depending on situational pressures. It would be a constant problem with him to keep away from drugs in the same way it is for an alcoholic to keep away from alcohol. I think this is the context in which I spoke.

Craver: My name is Bradford Craver. I'm with the E. R. Squibb & Sons Division of Olin Mathieson Chemical Corp. Hypnosis has been valuable in treating many types of pain in suitably selected patients. Has it had a sufficient trial in treating addicts to settle unequivocally the question of whether it has any therapeutic merit in dealing with the withdrawal syndrome?

Isbell: The question of hypnosis was studied at Lexington in the middle 1930's by Dr. Victor Vogel. I mentioned part of this and his work on the degree of suggestibility in addicted persons as compared with other groups (*220–222*). At this time Dr. Vogel, in collaboration with Dr. Himmelsbach, attempted to take hypnotic subjects who were drug addicts through withdrawal of opiates under hypnosis. Their efforts were unsuccessful; the subjects came out of the hypnotic trance.

Craver: Has any effort been made to shorten the time interval between the commission of the crime and the imposition of the penalty, assuming intervening trial and conviction? Penologists and psychologists have long emphasized that severe penalties that follow too long after the commission of the crime are much less deterrent than less severe penalties that promptly and inexorably follow.

Ploscowe: The question wasn't addressed to me, but as I was the moderator during the session covering this general subject, I shall try to answer it. As far as the addict is concerned, I think that penalty usually follows very promptly. The answer is simple. He generally cannot raise bail and he is kept in jail until the time of sentence. He usually pleads guilty, so generally at least—I'm speaking of New York—there is not a great deal of delay between the so-called time of arrest and time of imposition of the sentence.

When you consider the seller, I think the people from the Narcotics Bureau are better able to answer that question. Obviously, this involves a big fellow who has a whole lot of money at his command. He is going to take advantage of all the technicalities that are available to him. Now, the law is so formulated that eventually, if the man has been nabbed with the goods, he is going to go to prison. Now, the so-called delays of the law are delays which are intended to protect individual liberty. For years we've talked about trying to eliminate those delays. I wish I knew what the formula was. They exist in every country in the world.

Harney: On this same question I would join my good friend Rufus King and say that we ought to adopt something of the English system. They seem

to know how to get quicker prosecutions; they don't have an equivalent lag. It's the fault of our procedure and people. We should have very, very much faster prosecutions. If it were intelligently approached, I don't know why we shouldn't. But we're just muddling, swimming upstream on this one.

Sokoloff: My name is Irving Sokoloff, Special Narcotic Caseload Project, New York State Division of Parole. How long is regarded as a satisfactory period of hospitalization by the Lexington authorities?

Isbell: I think that ideas as to this have changed with time. As I mentioned in the paper, Dr. Himmelsbach made an extensive series of studies showing that it requires 2 to 6 months for the reattainment of a complete physiological stability in persons who had been strongly addicted (*80*). This was the original basis of requesting patients to stay for a minimum period of 4½ months. However, we now realize that the degree of physical dependence is far less at present than it used to be, because of the decrease in amounts of drugs that the addict gets. Recent studies, as mentioned in the paper, have not shown any correlation between the length of detention and improvement in the results. At the present time at Lexington, I believe we're asking patients to stay 1 month. At the end of this period, the patient meets with his physician and with the staff, and a decision is reached about whether the institution has anything more to offer him. Many of them would be leaving at that time, and this would constitute the minimum period of time at present for a certain group of addicts. Others among the addict group may remain voluntarily for several months in group or individual psychotherapy.

Williams: My name is E. Y. Williams of Howard University Medical School. We've had experience with a preparation called calcium gluconate which we have used effectively in the treatment of over 100 cases of heroin addiction. This preparation we found to be nonnarcotic, nonaddicting and pain relieving. Its use permits the abrupt withdrawal of the heroin. I was wondering if any of the speakers had any experience with this preparation.

Isbell: I was looking at Dr. Himmelsbach to see if he recalled studying this substance. I don't believe it has been studied, Sir.

Houde: My name is Raymond Houde, Memorial Cancer Center. I'd like to direct this question to Dr. Isbell. Since there seems to be a risk of having some of your remarks taken out of context, I wonder if you wouldn't clarify your statement that morphine doesn't alter perception of pain?

Isbell: By this we mean that using such apparatus as the heat stimulants of Hardy, Wolff, and Goodell, electric shocks to fillings in teeth of human subjects and, in other experiments the application of electrical current to the palms of the hands, we have been unable to show any consistent elevation in the threshold for the perception of pain by any of these various methods in either addicts or nonaddicts—any consistent elevation. Eleva-

tions do occur which by and large are in the area of chance fluctuations of the subject's perception from time to time. This is what was meant.

However, Dr. Wikler and Dr. Hill have been able to show in other studies that morphine markedly reduced the disruption in a certain type of psychological performance (71–73). The disruption was brought about by the administration of very severe electric shocks to the skin of the hand. Morphine reduced the disruption due to these shocks, even though at the same time it caused no change in the patient's ability to perceive or even to grade the intensity of the shocks.

Gibson: J. A. Gibson, Dayton, Ohio, Citizens' Committee on Narcotics. Mr. Harney suggested that since the new law went into effect, Ohio has had virtually no problem. Dayton, as some of you may know, ranks third in the State. In 1955 Dayton had a total number of 61 arrests associated with narcotics. In 1956, after the law was put into effect, we had 48. In 1957, the total number of arrests was 62. I'd like for someone to tell me whether or not Dayton has a problem, or what is a problem.

(No response.)

Wendel: My name is Herbert Wendel. I'm with Smith, Kline & French Laboratories in Philadelphia. I would like to ask Dr. Seevers a question. What is the probability with which the addiction liability of a compound can be determined by testing such a compound in animals for morphine-like activities other than addiction? What I mean is that morphine and opiates have a number of pharmacological properties which may be called specific, such as analgesia, depression of respiration, increase of intestinal tone in the whole unanesthetized animal, excitation of cats and mice with depression of other species and antagonism by Nalline. Now, if a compound has been found to possess these specific morphine effects, what in your opinion is the probability that this compound will be addicting in man?

Seevers: I think the final answer would have to be whether it's capable of producing physical dependence. One can get a general notion as to the type of pharmacological effect by careful observation, and one could surmise with reasonable accuracy, I presume, that if you had a compound that produced morphine-like effects generally in animals, it would most likely also produce dependence and tolerance. But it would not be safe to make this prediction on an absolute basis until the specific trials for dependence, tolerance and substitution have been made.

Wendel: Do you know of any compound which has in animals morphine-like activities and is not addicting in man?

Seevers: Well, there are many compounds that appear to produce morphine-like effects in animals that don't have addicting properties. Take a substance like bulbocapnine; materials of that type evidently don't produce physical dependence liability but they do have effects in animals which are not too dissimilar from those in the morphine series. So you can guess, but you will not have the correct answer without specific testing.

Wendel: Is bulbocapnine antagonized by Nalline?

Seevers: No; it is not.

King: A question for Dr. Isbell. In the course of your remarks, I think you stated that the American Medical Association had in effect requested the enforcement authorities back in the 1920's to enforce the narcotics laws vigorously and strictly against the medical profession. I recall that a committee of the American Medical Association waited on the Attorney General to ask that a test case be prepared, in order to clarify the application of the law, but nothing beyond that. I wonder if you were alluding to some more specific or direct request for such enforcement activities? Your remarks were, I think, to the effect that the medical profession, through the American Medical Association, had directly requested that the Harrison Narcotic Act be enforced in vigorous terms with respect to the medical profession. You said that therefore it was not the police who initiated this policy but the medical profession. I am asking on what basis that conclusion is grounded?

Isbell: This committee was the one which, I believe, made its report in 1921. The chairman, I think, was Dr. Haven Emerson. You can find it documented in the report of the Council on Mental Health on narcotic addiction. At the time of this latter report, Dr. Emerson was still alive; he was the sole surviving member of the committee. So I wrote to him and inquired why they adopted this particular position of going to the Attorney General and requesting him to bring a case which would clarify the narcotic law in such a way that the administration of drugs, or the placing of drugs in the hands of an addict for self-administration, was not possible; and why they went to the Director of the Bureau of Prohibition and asked him to use his full powers to put a stop to placing drugs in the hands of addicts.

The reply I received from Dr. Emerson was to the effect that at the time, Emerson's committee, which was an outgrowth of a New York State Medical Association's committee, was alarmed and disgusted by the activities of doctors whom they thought were not attempting to cure addicts but were just writing prescriptions for profit. This was one of their motivations. Their other motivation was that they felt that—I believe this was in his letter—the epidemic of adolescent addiction which followed the First World War was coming under control as a result of vigorous law enforcement and for this reason the committee went to the Attorney General and to the Director of the Bureau of Prohibition to make this request.*

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*Added to the record by Dr. Isbell following the symposium:

A direct quotation from the report of the Committee on Narcotic Drugs of the Council on Health and Public Instruction of the AMA is the best reply to Mr. King's original question. The quotation is taken from the *J. Am. Med. Ass., 76:* 1669–1671 (June) 1921. On page 1669, after introductory material giving the resolution establishing the committee, the report reads as follows:

"At a conference with a representative of the Attorney General, in his office at Washington, the committee presented the problem stated in the above resolution. As a result of this conference it was agreed by the Attorney General's Office that a case would be prepared by which it is hoped that a definition of medical practice

King: This is an important point. It might even be worthwhile to put the letter in the record, if you could do that, so it would be available.*

Isbell: One thing to me is still missing. Actually, I succeeded in finding that the *Behrman* case—this is in the National Archives—was brought in response to this visit. But what I would like to know is the circumstances around all the other Supreme Court decisions, about just how they happened to be brought up. I don't think this has been studied.

King: Well, much is available at the Supreme Court itself, in the records of the cases which include the records of the lower courts, and in the briefs. I was aware that the *Behrman* case was the test case and, of course, that it was a very flagrant case, far out of the ordinary dimensions of the problem at that time.

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will be reached which will make clear the purpose and intent of the Harrison law, not to interfere in any way with the proper use of narcotic drugs in a legitimate practice of medicine, but equally not to permit the supplying of narcotic drugs to addicts, even under the guise of medical treatment to cure addiction.

"Your committee also called on Mr. L. G. Nutt, Director of the Narcotic Field Force of the Bureau of Internal Revenue, the Treasury Department, and transmitted to him the opinion of the Council on Health and Public Instruction to the effect that the medical profession emphatically condemns the practice of distribution of the habit-forming narcotic drugs to addicts in the course of their treatment for addiction in such a manner that the addicts may administer the drugs themselves. Briefly, the so-called ambulatory treatment of addicts was condemned, whether practiced by their private physician or in a public institution such as the so-called 'narcotic clinic' and the director was urged to make use of the full powers of the Internal Revenue Bureau under the law to put an end to this practice."

*Added to the record by Dr. Isbell following the symposium:

"There is no objection to making Dr. Emerson's letter available. Deletions have been made of references to persons long since dead and are indicated by dashes. The deletions do not change the sense of the letter in any way.

"July 31st, 1955.

"Dear Dr. Isbell: In 1921 there was no experience from abroad on the ambulatory treatment by private M.D.'s or through official clinics or other agencies with continuous permit for use of narcotics by habitual users or by addicts, and the development of crime to pay for forbidden narcotics was not a social or a police phenomenon of common knowledge.

"We had just been through the first epidemic in New York City of teenage heroin addiction and it seemed to be disappearing with restriction of the drug by national and international police control of the traffic.

"Discreditable and politically promoted clinics for drug addicts—in New York City and somewhat similar efforts in New Orleans and Louisiana—left a bad impression on the medical profession at the time. We followed prevailing medical opinion, Victor Vaughan, Walter Cannon and I.

"I do not know what more I can write you of my memory of our reasons for the action we took in 1921.

"Surely we have failed in the main from the efforts at Lexington Hospital and at Riverside Hospital on North Brother Island, New York, either to prevent or rehabilitate addicts of morphine, heroin, or cocaine.

"I think my present opinion is in the main in agreement with the Committee on Public Health of the New York Academy.

"Sincerely,

"(Signed) Haven Emerson."

BENCH REMARKS FROM THE CHAIR

Moderator: Hon. Edward J. Dimock
Judge, U.S. District Court
Southern District of New York

Dimock: You did not come here to listen to me, and that is very clearly recognized, and yet I ask your pardon if I take a few minutes to say how grateful I am to be able to be here and to learn something about the narcotics problem. Most of my views on the subject reflect nothing more than emotional reaction to incomplete data. That is perhaps strange when I live in a little world of narcotics problems. About half of the hundred or so cases that come before me when I am sitting in the criminal calendar part of our court are either cases where a violation of the narcotics laws is charged, or else where someone is charged with stealing money in order to pay the high prices that he needs to buy narcotics. This is because the easiest ways of stealing money in New York now are robbing tenement house mail boxes and forging endorsements on Government relief and pension checks. Addicts resort to these easiest ways of raising the necessary money, and it happens that most of these crimes are within the jurisdiction of the U.S. District Court. With respect to such cases we have become a sort of magistrate court, and I repeat that almost half of our business thus arises from narcotics problems.

In spite of the opportunity that this gives me to come in contact with this problem, I don't feel that there is a single facet of narcotics questions where any view that I have had could be supported by demonstrable evidence. I don't feel so badly about that bceause I find that this is the situation with experts like Dr. Kolb and Mr. Harney; at least that is what I gather each one said about the other!

While we do disagree so much about results. I think there is general agreement that there are an awful lot of problems in this connection. For instance, whether the use of drugs is a curse or a blessing to the addict—whether addiction can be cured—whether addiction demands a constantly increasing dosage—whether occasional use can go on indefinitely or whether it leads inevitably to addiction—whether criminal penalties against the use of narcotics have any tendency to decrease that use—whether criminal penalties for the sale of narcotics tend to reduce or increase the use of narcotics—and whether increase in the degree of severity of penalties for the sale of narcotics has any effect whatsoever on the use of narcotics, and if so, what effect it has. Many of us think that we know the answers to some of these questions, and yet there is not one of them where there are not

strongly held and diametrically opposed views. But each one of those questions is a fact question. In my discipline, we are accustomed to attempting to resolve questions of fact, and there has certainly never been a better opportunity than we have now to review what has been done in the past toward determining these necessary facts.

Though the views of a trial judge are very deficient in the amount and conclusiveness of the data on which they are based, I think perhaps I won't waste your time if I put in my "two-bits' worth." For instance, *I have observed no tragic effects as the direct result of addiction to drugs.* When I send a man on his way, by way of Lexington, I blandly give him a lecture and tell him how down there they can take away this physical craving he has, but he is the only person who can deal with his emotional desire for the drug. Now, they listen politely as a man under those circumstances had better, but it doesn't have the slightest effect on them. As a matter of fact, most of these fellows that come before me don't want to be cured. They have found that narcotics make life not only bearable for them, but reasonably pleasant. The only thing that they object to is that the ways of getting enough money to sustain this pleasurable existence are all outside the law. Perhaps if they were not so busy stealing and selling shots to one another, they could produce a whole crop of poems like Kubla Khan that Coleridge succeeded in writing when Josiah Wedgwood was paying him 150 pounds a month and supporting his taste for laudanum.

Sometimes I try to find out how these people got started on the drug. Here again they always tell me what they think I would like to hear. In fact, one of our probation officers told me that when she asked some young girl addict how she got started that the answer depended upon what story had been in the *Daily News* the day before.

I find no evidence that the use of narcotics leads to the commission of crimes of violence. That may be due entirely to the fact that we have this sort of magistrates' jurisdiction on these petty post office crimes; there are very few crimes of violence that come before the District Court so that perhaps it is a weighted experience that I have had in that respect. I try to find out the relapse rate, and I must say that the record seems to be pretty poor. But that again may be just the result of my particular experience, because of course I hear a lot more about the backsliders than those who are faithful.

Whether the mandatory prison sentences do any good, I don't know. Of course, no judge likes to have his discretion interfered with; and yet I don't think that I am entirely unreasonable in objecting to the necessity of having to send a hare-brained saxophone player away for 10 years for having a pack of marijuana cigarettes in his pocket. And I would have great difficulty in substantiating my position when a pregnant wife comes in and asks me if there isn't any hope that he can get back before 8½ years I must tell her "No," and she compares that with the husband

of a friend of hers who is going to be out in a year after being convicted of white slave traffic.

I expected that the making of these sentences mandatory would so increase the risk of selling narcotics that it would put the price way up, but what I learn from the enforcement officers in New York is that for some reason or other the price has stayed just about the same.

While I run into no physical tragedies resulting directly from the use of narcotics, it is just common practice to run into tragedies such as a pair of parents coming in utterly broken because a boy of theirs who got the habit sold the family TV and anything else that he could find about the house that was salable. He finally had to go outside to dig up the money in order to pay his purveyors, and got into the forgery business, and so on, and finds himself and them in disgrace in the Federal Court and himself faced with a mandatory prison sentence. *But tragic as these things are, the tragedy of narcotics, in volume, is but a pale candle flame to the noonday sun compared to the tragedy resulting from the good-natured alcohol with which most of us flirt so gaily.*

THE STATUS OF SOCIOLOGICAL AND SOCIAL PSYCHOLOGICAL KNOWLEDGE CONCERNING NARCOTICS

Isidor Chein
Professor
Research Center for Human Relations
New York University

My task is to review the status of sociological and social psychological knowledge that has a direct bearing on the use of narcotics. I shall advance the somewhat paradoxical thesis that our knowledge of the social and social psychological factors involved in the use of narcotics is quite muddy, but that it is nevertheless adequate for the formulation of a program of action. I shall begin with the first portion of this proposition and consider the sources of confusion.

INCOMPLETENESS OF KNOWLEDGE OF SOCIAL MECHANISMS

The "simple" issue of incidence. The great bulk of available data is based on arrests. Unfortunately, the number of arrests is far from a simple function of number of users. It depends on amount of police activity. It depends on the adaptability of possessors to the existing possibilities of detection, and the rate at which law enforcement officials can accommodate themselves to current skills and techniques of evading detection. It depends on the kind of police activity. Thus, if the police are concentrating on the primary sources of distribution, we may expect that the relative number of arrests will go down—simply because it is a more complex and difficult job to get at the primary sources and takes more man-hours of police energy. Contrariwise, if the police are concentrating on the consumer end of the business, the number of arrests will go up. The easiest way to produce a large number of arrests is to concentrate on the known addicts at large in the community. The number of arrests will also reflect the disposition of cases in the courts—and probably in a curvilinear fashion, at that. Thus, if the courts go hard on the police, the latter can only accommodate themselves by trying to build stronger cases and letting the weaker cases go. On the other hand, if the courts go hard on the persons arrested, the number of users in circulation at any given time—and hence the

number available to arrest—goes down. But an addict serving a jail sentence is still an addict and, as such, should be counted in the population of users. My point is that a given user may be represented in the arrest statistics for a given period from not at all to many times, depending on what the police and courts are doing during that period. Lest I be misunderstood, let me emphasize that I am talking about *counting* the number of users and not about the effects of law enforcement procedures on the long-range growth and decline of this population.

With hospital admission statistics, we have similar problems. Not only will the number of, say, voluntary first admissions vary with the available hospital facilities, but also with the activities of the police and the courts. Thus, it is reasonable to assume that the more difficult life becomes for the addict, the more likely is he to seek medical assistance. And the availability of hospital facilities is not a simple function of the number of hospital beds devoted to addicts. For a given number of beds, the number of admissions (new or total) will vary with the average length of stay of patients which, in turn, varies in complex ways with hospital policies.

The only sure way I know of to determine the number of individuals directly involved in the use of narcotics is to define a definite population, find out which members of this population are known as users to all of the sources that are likely to know of such cases, and then go through a laborious procedure of cross-checking names and related information so as to make sure that a given individual is counted only once.

We made a serious effort to do this in our own study of juvenile drug use in three boroughs of New York City. The juvenile population has the merit, from the present point of view, that it is not likely that a regular user will go undetected for very long. Drug use is expensive and the young user is not very likely to have the resources to sustain a habit. If he is not caught in direct possession, he is apt to be caught in the effort to obtain the resources, and secondary evidence (e.g., withdrawal symptoms, needle-marks) can connect him with drug use. Even so, during a period when authorities were especially alerted to the detection of drug use, we found that 4 out of 50 cases at a reformatory, selected as nonusers, told us that they had in fact been regular users. We also found that an average of about 2 years lapses between initial flirtation and detection.

Taking into account known sources of error, we think it can be very conservatively estimated that about 500 young men between the ages of 16 and 21 become seriously involved with narcotics each year in the 3 boroughs. On a considerably shakier foundation, add about 100 girls in the same age range and another hundred youngsters under 16. These figures, of course, cannot be extrapolated, even on a rate basis, to other locations or age groups. The more inclusive the defined population, the more complex and difficult is the cross-checking operation. Even with respect to the very limited population I have just referred to I can only estimate the annual increase to the defined population; but since I have

done nothing to find out the annual losses, I cannot give you an estimate of the true net statistics for any given period.

Semantic issues of what is addiction. Arrest statistics include cases of individuals who may not be users. In the juvenile population, we have reason to believe that the proportion of such cases is quite small, but I have no idea what the situation is among adults. The effect of this bit of ignorance is trivial, however, since, as I have just indicated, we have no idea of how many individuals are seriously involved with narcotics. I don't know what we would do with the information that a definite proportion of some unknown number are seriously involved with narcotics on some basis exclusive of personal use. My only reason for bringing the matter up at all is to indicate how sloppy our thinking can get as we bandy about arrest statistics as an index of the addiction problem. Statistics don't lie; but the people who take seriously estimates of incidence on the basis of presently available statistics are surely not statisticians.

Even apart from arrest and hospital statistics, however, there are important semantic issues involved in more serious studies of the determinants and consequences of drug use. Let me draw some distinctions as a basis for pointing out some of the muddle we get into. There are, to begin with, more or less regular users. Some unknown proportion of these become physiologically dependent. We have reason to believe that individuals differ in their susceptibility to dependence, and we know of individuals who go on using a drug like heroin for several years on a more or less regular weekend basis and then, apparently without difficulty, quit. Lindesmith* argues persuasively that a person does not become an addict in the true sense of the word until he has experienced withdrawal symptoms, or at at least, anticipates withdrawal; it is only then that his style of life becomes adjusted to the fact of his dependence. From our present point of view, addiction involves going a step beyond dependence; and it is conceivable that under appropriate circumstances (e.g., before the passage of the Harrison Act) some individuals may not have taken that extra step.

Lindesmith's distinction, however, still leaves some important additional distinctions to be made. We have to take into account the fact of *craving* which I do not consider a physiological matter. Thus, the full blown addict is not content with a maintenance dose that will prevent the withdrawal syndrome; he wants the psychological gratification and may, because of the development of a high-tolerance level, even be willing to go through withdrawal in order to assure the latter. In fact, it is possible to establish craving without having developed physiological dependence at all. This is regularly the case with many drugs that are not associated with a physiological abstinence syndrome (e.g., marihuana, tobacco, etc.). It follows that the natural history of dependence is quite different from that of craving. Further, it follows that addiction in Lindesmith's sense may cover three

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types of cases: dependence without craving, craving without dependence, and the concurrence of the two.

That the experience of a thwarted craving without an abstinence syndrome may well lead to the kind of consequence envisioned by Lindesmith in connection with the experience of withdrawal, I can attest from my personal experience with tobacco. When, during World War II, the tobacco shortage developed, I can well recall the conniving I went through to assure the maintenance of my supply and how much of my time went into the pursuit of this end.

There is still a further distinction to be made. The typical individual whose self-image includes the fact of his addiction still conceives of his addiction as essentially ego-alien—a "monkey on his back." With repeated experiences of failure in efforts to rid themselves of the habit, some unknown proportion of cases come to a realization that the habit really reflects some aspect of themselves and not something externally imposed. Some never do. Can we blandly assume that the history of these two types of cases is the same? Some of the first type are motivated by this insight to profit from therapy; some, I suspect, are not. Can we assume that the determinants of their respective initial experimentation, continuance, and addiction are the same?

The point of these distinctions is that the word "addiction" is so loosely used that in studies of addiction (and this includes my own studies, although I am careful to say "user" rather than "addict" whenever the group I am studying probably includes some substantial number of nonaddicts in the Lindesmith sense), we never know what proportions of the various types of cases are included. Even when the population studied is drawn from a specialized narcotics hospital, it is by no means certain that all of the cases studied are even addicted in the Lindesmith sense, to say nothing of their status with respect to the finer distinctions I have just drawn. Suppose, for instance, that there are a substantial number of cases—and I know of no evidence to prove that there aren't—who experience withdrawal and then, instead of adjusting their lives to this new fact, get themselves committed. In any event, we have no reason to expect that judges will bear the Lindesmith distinction in mind in imposing commitment as an alternative to a jail sentence. It is probably also true that a substantial number of cases have been observed not to undergo a marked withdrawal syndrome; can we say with assurance that they were even dependent?

If distinguishable types of cases are not distinguished, real relationships may be obscured and artifacts produced as a result of the happenstance distribution of the various types in the samples studied. The point has bearing on the studies carried out in other disciplines, but I shall not presume to speak for them; I speak only of my own.

The contexts of narcotics use. These include the contexts of the cultural settings and the contexts of the individual life history. It is well known that

different cultures vary in the degree to which they accept or reject the use of narcotics and in the conditions which they impose to define legitimate use. Even in the United States, the situation was quite different prior to and subsequent to the Harrison Act; and there is no doubt that even now there is a wide range of subcultural variation in this respect. Thus, in a study of eighth grade boys in three lower class neighborhoods, my colleagues and I found marked neighborhood differences in the distributions of values, attitudes, information, and experiences that are relevant to the nonmedical uses of narcotics. As we read the data of this and other relevant studies that we have done, it seems that a major feature of these neighborhoods that makes them hospitable to drug use is the relative number of individuals who are identified with what Cohen has called the delinquent subculture. About one-fifth of the boys in each of these neighborhoods can be said to fall in this category. But, over and above this, one difference between these neighborhoods lies in the degree to which attitudes specifically favorable to drug use are explicitly interwoven into the delinquent orientation towards life. Not surprisingly, this trend is most marked in the neighborhood of highest drug use. And I emphasize that I am talking about boys in the 13 to 14 age range.

The point of noting these cultural variations is that the instigations to, the supports for, and the constraints against the use of narcotics are quite dissimilar in these different cultural settings. It follows that the nature of what is taking place as the individual becomes involved in drug use must be quite different. The same is true of the contexts of the individual life history. Thus, the physician who becomes enmeshed, and the boy living in a high drug-use high delinquency area who becomes enmeshed, present us with what, on the face of it, must be taken as quite different kinds of events. Similarly, even within the high drug-use high delinquency area, there must be quite different stories presented by the delinquent boy who comes to drug use as another way of expressing his hostility to the larger society and of expressing his solidarity with his delinquent subculture and the nondelinquent boy who comes to drug use by some other channel. Again, there must be quite a difference between an individual who comes to drug use in a period of adolescent rebellion and another who comes to it in his maturity.

Lindesmith has argued that the factors responsible for initial drug use are not, as such, the critical factors responsible for addiction. Thus, he cites cases whose downfall began with the administration of narcotics while they were unconscious, and contrasting cases who, having become habituated to narcotics in the course of receiving treatment for a painful illness, go through the withdrawal period and never come back to narcotics. There are many reasons for accepting this conclusion of Lindesmith even though one could doubtless stir up a lively controversy over the question of what determines the transition from initial drug use to addiction.

While accepting Lindesmith's conclusion, however, that the determinants of addiction, given initiation to drug use, are quite different from the determinants of initiation, there are still two important points to note: First, the nature and the degree of the wrench as the individual adjusts his style of life to the fact of his addiction is going to be quite different in different cultural and personal contexts. The implications and consequences, and possibly even the psychological functions of addiction are therefore going to be quite different. Second, one still cannot become an addict without initiation to drugs. Hence, the causal history of the initiation and of the continuation of drug use prior to addiction is an essential component of the causal history of addiction.

On both of these counts, it becomes clear that what I have referred to as the issues of contexts of drug use are very germane, that the term "addiction" covers quite a variety of diverse phenomena, and that the scientific accounting for addiction requires not one, but many accounts. There may be common denominators in these accounts, even apart from the specific drugs involved, but we cannot be sure of them until we have examined the discrete varieties in detail. It is not merely the scientific layman who fails to make the necessary distinctions. The scientific researchers have also not made them, not exclusively because of a lack of sophistication, but also because of the practical exigencies of the circumstances under which they must do their research.

A PROGRAM OF ACTION

So much for the first part of my thesis, that our knowledge of the social and the social psychological factors involved in the use of narcotics is quite muddy. Let me now turn to the second part of my thesis that what we do know is nevertheless quite adequate for the formulation of a program of action. I hasten to explain that, again, I am not presuming to speak for disciplines other than my own; I am referring only to a program of action that might be based upon social psychological knowledge. I certainly do not mean to exclude programs based on other lines of knowledge.

Scope of the program. For one thing, a program of action has to be quite local in its application. It is, therefore, relatively unimportant if a program designed for application in 1958 to heroin users in New York City or Chicago does not fit the cases of opium smoking by Chinese literati, or the use of hashish by Indian Brahmins, or the individuals in this country who developed opiate addictions through the use of proprietary medicines prior to 1915. The potential scope of any action program we might design does not include the areas of our greatest ignorance.

For another thing, any action program has to be aimed at some target population, and the target population will be defined in terms of a modal image. In other words, if in a given target population there existed many strands and we were to possess refined information concerning each of those strands, we still could not hand tailor programs of action to the individual

strands. We would design the programs to have the most widespread effects and, hence, be thinking in terms of the average or most typical cases. But, if we think in terms of an abstracted typical case, we lose the image of the variants. We could take cognizance of the existence of many strands by providing facilities in our program which can make use of information concerning variations from the average theme. Question: What kinds of facilities would these be? Answer: Facilities that can deal with each individual case as an individual case. We already know, however, that such facilities are needed. Even though we are lacking in refined information concerning the various strands, this is a lack in our science, but does not have too great a consequence in our dealings with individual cases. If we really aim to deal with the individual as an individual, then each case brings with it the information that is most relevant to dealing with it. We may, of course, be blind to the relevant information that the individual case brings. We need guides to tell us what to look for. But, even apart from the guidance provided by psychiatry, clinical psychology, and other relevant professions, the very analysis of the limitations of our knowledge provides us with such a guide. It sensitizes us to what we need to know so that we can see the individual as an individual rather than as a stereotype.

Please do not misunderstand me. I am not making a plea for the perpetuation of our ignorance. I am simply saying that if our knowledge of the conditions of drug use is muddy, it is not so muddy as to make it irrelevant to defining what needs to be done. Let us, then, review what we know, muddy as this knowledge may be.

Areas of confident knowledge. We know, first of all, that apart from special occupational groups like physicians, nurses, and pharmacists, *the illegitimate use of narcotics is especially associated with the urban slum.* Bingham Dai found this in his study of opium use in Chicago in 1937. The finding was, according to Clausen, recently confirmed by the staff of the Chicago Area project. We have obtained the same finding in our study of juvenile narcotics users in New York City. In fact, we were able to show that even within a restricted area like Harlem, the *most* impoverished sections contribute the *highest* rates of drug use. There are intimations of similar findings in other studies. For instance, Pescor, in 1943, found that 44 percent of the patients at Lexington came from the deteriorated sections of metropolitan and urban communities. Bear in mind that the remainder of the patients came from a pretty large territory and doubtless included the occupational groups I have already excluded from the rule—and, even so, you can add another 8.5 percent who came from the deteriorated sections of suburban communities.

We know that *individuals identified as addicts have experienced an inadequate home life,* again possibly excepting the special occupational groups. This finding shows up again and again in numerous studies, even on superficial indices like whether the patient grew up under the auspices of both parents. For instance, in Pescor's 1943 study of Lexington patients,

45 percent were not reared by both parents. In our study of juvenile male addicts, there was a missing father in almost half of the cases during a significant portion of the boy's early childhood. Similar findings have obtained in studies of female addicts, including a small study of our own on females under 21.

To be sure, the finding may reflect the conditions of life in the slums and has little meaning as an independent finding without the use of control groups. However, in our study of juvenile addicts, in addition to going into the character of the early home environment much more intensively than is characteristic of such studies, we introduced some pretty careful controls. At least for this group, it is hard to question the finding, and this lends credibility to earlier related findings. Incidentally, when we attempted to do a deviant case analysis—i.e., of addicts coming from good homes as measured by five indices, and controls coming from poor homes—we not only could not find extreme deviants, but when we looked at the relative deviants in terms of data to which our indices were not sensitive, the basic conclusion was only reinforced.

This conclusion is, of course, implicit in the psychiatric findings concerning the incidence of psychopathology among addicts, provided that we take seriously the premise that the kinds of psychopathology found among addicts have their roots in disturbed family relationships. Our study was in fact guided by some of the psychiatric findings. Specifically, we posited on theoretical grounds and drew up lists of the kinds of home environment conditions that would be expected to be conducive to a weak ego structure, to defective functioning of the superego, to inadequate masculine identification, to an unrealistic orientation toward the future, and to a distrust of major social institutions. We then looked to see whether the home environment factors which we associated with each of these psychological states would be found more frequently among addicts than among comparable controls. They were.

We know that *initiation to drug use and continuance of use is typically an outcome of the ordinary social relationships of the individual who becomes a user.* This conclusion, excepting the medical addictions and again excepting the special occupational groups, is explicitly or implicitly supported not only by our own findings, but by virtually every contemporary study that has relevant data. I may mention parenthetically that our expectation that female addicts would have been introduced to narcotics by their male friends was not supported. At least among juveniles, the female addict, like her male counterpart, is typically initiated by members of her own sex.

We know that *a favorable attitudinal substrate to the use of narcotics is generally laid down before the initiation.* Not only is this a matter of common sense interpretation, but it can be documented in detail for the younger users. Among the latter, as evidenced by both our own studies and the studies of the Institute for Juvenile Research in Chicago, it is associated

with what my colleagues and I refer to as a delinquent orientation to life—regardless of whether the individual user has become a delinquent prior to his initiation. We have been able to demonstrate that such an orientation already exists in substantial numbers of eighth grade boys in lower class neighborhoods and that, while more general, it includes components favorable to the use of drugs. Moreover, I think we can safely say that it is most common in precisely those subgroups of eighth graders which, by every other indication, are most vulnerable to induction into the ranks of users.

Lindesmith has appealed to another proposition concerning the attitudinal substrate to account for the transition from the status of drug user to the status of addict. In the process of socialization, an individual develops an image of the addict which is, to begin with, unrelated to his self-image. Once the user recognizes or anticipates his dependency, however, and defines himself as an addict, he transfers his image of the addict into his self-image and behaves accordingly. The transfer need not be immediately complete, but it is facilitated by his continuing experiences and adjustments as he becomes more and more enmeshed in the network of social relationships and the style of life of the habitual user. Here develops a vicious cycle: the image facilitates the experience and the experience reinforces the image and extends its range of application.

This account is almost undoubtedly correct as far as it goes. That it does not go far enough is evidenced by these facts: the vicious cycle is not inevitable and, once it has begun, its continuance is not inexorable. What the account leaves unexplained, moreover, is why, except in the case of the so-called medical addictions, the cycle should begin at all. The common stereotype of the addict is far from a favorable one. Even the delinquent street gangs are resistant to the immoderate use of heroin for good reasons—if this is any comfort to law enforcement officials—that the junkie is unreliable "on the job" and, moreover, can bring extra trouble to the others if he is arrested along with them. Why should the individual put himself in the way of becoming something so abhorrent? Apart from the self-destructive and other deep-rooted needs which I leave for discussion by the psychiatrists, at least part of the story is that *the vulnerable individual does not wholeheartedly share the larger society's stereotype of the drug user and the values associated with drug use.* He does not accept the inevitability of addiction, especially as applied to himself. His image of the future is, at best, vague and shadowy—and what he can foresee of it is, in any case, bleak and futile. He lives by a philosophy which calls for seizing upon the pleasures of the moment, and one of his major values is to seek thrills and take chances. He is not bothered by the illegality of drug use except as one of the hazards of living, and he is not concerned with any thoughts of its possible immorality. He looks upon the use of narcotics as one of the common features of his environment. In a word, if he shares in the images of the larger society, this sharing is heavily contaminated by the contradictory

attitudes and values which he derives from his immediate subculture and from the conditions of his existence.

There are two more facts worth noting. First, over the years since the early thirties, there has been a *marked and accelerating shift in the axis of narcotics use from adults to youth.* To mention only one bit of supporting evidence: according to a report of the Institute for Juvenile Research, the percentage of known users in Chicago who were under 21 years of age was 2 in 1932, 10 in 1943, and 33⅓ in 1952. Quite possibly this trend will be reversed as the young ones grow older; but, in either case, by all present indications, the adult users of the coming years will be in increasing proportion individuals who began to use narcotics before they had reached their 21st birthday. Second, *there has also been a shift in another axis of drug use, from white to Negro and Spanish-speaking populations.* The use of narcotics today, in this country, is heavily concentrated, although still far from exclusively so, in these populations. Thus, in Dai's 1937 study, Negroes accounted for only 17 percent of known users in Chicago, and whites, predominantly native born, for 77 percent; by 1953, the Institute for Juvenile Research reported that a substantial majority of known users in Chicago were Negro.

The drug user's world. Now, these things that we know—viz., that the illegitimate use of narcotics is especially associated with the urban slum, that addicts have suffered from an inadequate home life, that initiation to and the continuance of drug use is typically an outcome of the ordinary social relationships of the user, that a favorable attitudinal substrate to the use of narcotics is generally laid down before the initiation, that one axis of narcotics use has shifted from adults to youth, and that another axis has shifted from native born white to the two most discriminated against groups in our contemporary society—these things add up to a relatively simple and meaningful picture of drug use in the United States today. It is the other side of the coin of what the psychiatrists have found.

The drug user's world is one of hopelessness and futility, a world which denies him evidences of his essential worth and human dignity, a world in which people push other people around and in which human relationships are essentially exploitative, a world in which one can form transient alliances but not strongly welded bonds based on mutual trust and unselfish mutual support, a world in which one has to grab what one can get or go without, a world in which one's only defenses are to pretend that one doesn't care, to ally oneself with similarly displaced persons, to conspicuously reject the values and norms of the rejecting larger society, to model oneself on the most visible examples of success that this world has to offer, the only examples of success that stay in it, the illegitimate ones.

From this world, narcotics, and the sense of belonging that one can for a while obtain from the society of users, offer an illusion of an escape hatch. But the world itself is not an illusion. It is not a paranoid delusional construction. It is a tragically real world. There are more realistic escape

hatches; but they are hard to find, and it takes an extraordinary person to make use of them. The schools, for instance, offer an opportunity (and, even here, as we have found, the schools themselves are likely to be as underprivileged as the neighborhoods in which they are found); but where does one acquire the value system and the level of aspiration that makes their offering meaningful? And where does one find the teacher with the stamina and patience and understanding and utterly selfless devotion to enable her to withstand the battering she will get until you can convince yourself that here, at last, is a person who really cares and who starts out by accepting you for what you actually are? Yes; the denizen of this world helps to create it, but he does so by applying to it the only adjustment techniques he has learned.

He starts out by finding this kind of a world at home. Then he finds it in his neighborhood, with its poverty, broken families, gangs, big shots, and police who rightfully regard him as a potential menace. Then he finds it in the larger society when he discovers that he is one of that society's rejected. And he arrives to his teens when even the most fortunately situated individual is caught up in a struggle to establish his identity and to determine a direction for living. Is it surprising that at this point he is especially vulnerable? The structural materials out of which this world is created may vary somewhat from case to case. One individual may start out with a somewhat better—only somewhat, as we have found—family situation, but get an unusually severe dose of rejection experiences related to his group membership, and perhaps go through an unusually intense adolescent crisis related to a disastrous premature attempt to establish an adult sexual relationship. Another individual may be spared the rigors that go with minority group membership, but suffer from an unusually impoverished home life. And so on. The balance of the structural materials may differ somewhat, but the final shape of the world is pretty much the same.

This world that I have just depicted is not unique to drug users. With more or less minor variations, one can put together the evidence on the worlds of other varieties of social deviants—hard core juvenile delinquents, for example, and schizophrenics—and come up with essentially the same picture. Narcotics do not offer the only maladaptive apparent escape hatch. I have already indicated that the person who tries this hatch does not necesarily close it to the possibility of return. In other words, the portrait I have drawn is not offered as a sufficient explanation of drug addiction or, even more generally, of drug use. I am rather inclined to doubt that social psychology by itself can ever offer a sufficient explanation—at least, not without absorbing into itself a few other disciplines, some of which it might be able to digest and some of which it might not. In any event, the possibilities for useful social psychological research in this area are far from exhausted. Let me remind you not to let the eloquence with which I drew my portrait of the world of the addict allow you to forget how much we *don't* know.

Specific proposals. I have tried to show you that, though our knowledge is quite muddy, there are certain things we can assert with considerable assurance. These assertions point to some things that we can and should be doing. Since the same portrait applies equally well to other forms of deviancy, this fact gives extra value to a program that grows out of the portrait. If in doing something to help alleviate the problem of drug use we also help to alleviate a few other social problems as well, so much the better. Time will not permit outlining the indicated program in detail, but let me make a few points that offer some direction for thinking.

I take my first cue from the boys of the same ethnic groups growing up in the same neighborhoods who have not become drug users, delinquents, or psychotic. I have already indicated that they start out with one strike less against them: They come from much better homes. This suggests that we ought to work on producing better homes. What we can do along this line, however, strikes me as very limited. To be sure, we can make a lot of noise preaching about the responsibilities of parents, put up posters declaring that "when family life stops, juvenile delinquency starts," and convince ourselves that we are striking at the heart of the problem. But I hardly expect that this sort of thing will have much impact on a mother who is, say, a prostitute and a father who is an alcoholic. We can, of course, help out with families that are struggling against the exigencies of unfortunate circumstances. And we can, hopefully, reach more families than we do by pursuing an aggressive social case work policy. The New York City Youth Board, for example, has been experimenting with such a policy. Whatever can be said for the family approach in its own right, we cannot expect to reap its very limited fruits in the near future, except insofar as a spirit of helpfulness can form one of the building blocks of the enterprise I am attempting to depict.

We have learned something else from the boys who have grown up to lead normal healthful lives. Even with their better start, they still have to struggle against the unwholesome neighborhood environment. What we can do is to make this struggle less unequal. What we have to do is to make a break in the chain of converging environmental influences and to modify the reality of slum life and the image of the future available to those who grow up in the slums. We have to make instances of legitimate success very much more visible, and we have to make access to the legitimate environment much easier. We have to counter the converging forces that create low self-esteem and hopelessness by increasing the rewards for legitimacy, and by meeting the youngsters on terms they are ready to accept—as is done, for instance, in the detached worker programs. This means that we have to provide better training for working with lower class youth for every representative of the larger society that comes into contact with them—and this includes teachers and police. I don't mean to suggest that we should make social workers and psychiatrists out of teachers and policemen. The latter have perfectly legitimate and necessary functions to perform, and they have

more than enough to do; but they can carry out these functions better if they have a more adequate understanding of the settings in which they work. It has been found, for instance, that the police function more effectively as police in areas of intergroup tension if they are given a better understanding of the minority groups and the intergroup relations problems. Why cannot we do as much in the instance of lower class youth?

I take my third cue from the underlying philosophy of what I have referred to as the delinquent orientation. We have to demonstrate concretely and effectively that people do, and that society does, care. This does not mean that we should provide better recreational facilities, or a detached worker policy or aggressive case work or after-care clinics or something else. *We have to saturate these neighborhoods with all of these and more* and to introduce activities that will revolutionize the patterns of *intra*community relationships. We have to *prove* that we *do* care.

If, in all of this, the social scientist has been anticipated by several millenia, so much the better. It is, after all, one of the foundation stones of most religious traditions that, "Thou shalt love thy neighbor as thyself." In these traditions, it is made explicit that this includes "the stranger in thy midst." I merely add the interpretation that "the stranger" also includes the individual whom we ourselves have helped to alienate. We need to implement the general injunction by spelling it out in terms of concrete measures to be taken.

A PRISON ADMINISTRATOR VIEWS TODAY'S NARCOTICS PROBLEM

James V. Bennett
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I have been more or less intimately associated with the narcotics problem since, as a neophyte Government management investigator some 30 years ago, I was assigned to the then Superintendent of Prisons office to see what could be done to solve the growing problems it faced in those days. I thought then, as I believe now, that the way to make our prisons more effective as crime deterrents was to get the narcotic addicts out of these largely punitive institutions. Over the years I have not only been responsible for the custody of a great many narcotic drug users and violators but also have known personally many addicts and peddlers of various types. Incidentally, I have read innumerable books and reports on the problem and listened to a few well-documented talks, many ill-informed discussions of the problem, looked at a number of motion pictures and television shows which depend more on drama than objectivity, and otherwise tried to keep abreast of current thinking. I doubt, however, that these qualify me for as broad an assignment as was at first envisaged and so I will confine myself to testimony within my own knowledge, as judges and lawyers require.

DIMENSIONS OF THE PROBLEM

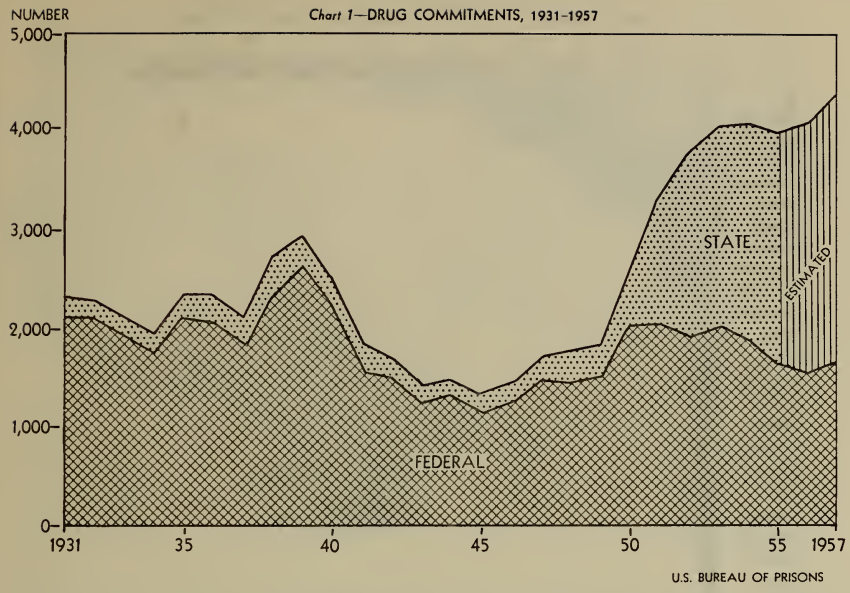
In my efforts to get the narcotic addicts out of Federal prisons I found an eager collaborator in Congressman Stephen G. Porter of Pittsburgh. After a number of setbacks, including rebuffs from the Department of Justice and some agencies of the Treasury Department, we won the enthusiastic and farseeing cooperation of Surgeon General Hugh Cummings and his associates, Dr. Blue, Dr. Kolb, Dr. Treadway, Dr. Pierce, and a number of others. The establishment of what were then called the Narcotic Farms, I thought, would solve the problem so far as the prisons were concerned. To discuss how wrong I was, what has happened since then, the dimensions of the problem today, and what a more mature and chastened prison administrator thinks can now be done is the task I have somewhat hesitatingly accepted.

My recollection is that back in the mid-twenties the estimated number of men and women addicted to opium and its derivatives was about 110,000

or about 1 in every 1,000 of the general population. Note that these were users of opium and its derivatives and did not include persons addicted to the synthetic drugs since discovered or to marijuana. In 1928 there were 2,200 violators of the Harrison Act in Federal prisons. These constituted about one-third of the population of the penitentiaries at Atlanta, Leavenworth and McNeil Island. Some 2,000 of these prisoners were addicted to the use of opium derivatives.

After a serious riot in the greatly overcrowded Leavenworth penitentiary in 1929, and a series of problems and investigations revolving around efforts to smuggle drugs into Federal prisons, the Army was reluctantly persuaded to turn over to the Department of Justice the Disciplinary Barracks at Fort Leavenworth. It was set aside for narcotic addicts and peddlers exclusively, and soon had a population of about 2,000. Because of lack of funds and a feeling of defeatism, I suspect, the program of the institution was almost exclusively custodial. As I recall the situation, most of the prisoners were white men in their late twenties or early thirties from the large cities. Mostly they were marginal workers or unemployables. They were "main line joy-poppers" who made no bones about their addiction. A few I remember, came from good families and claimed they were accidentally addicted or had become addicted following some illness or overgenerous medical prescription of morphine. Mostly they were serving relatively short sentences, about 18 months on the average. They were filled with self-pity and did not respond too well to such rehabilitative efforts as were available. Few confirmed addicts were paroled and there was no followup or after care whatever since at that time there was only a skeleton probation service in a few of the larger cities. All in all it was a pretty dark picture. The one hopeful sign was the increasing interest the Public Health Service was manifesting, and the opening of the first hospital exclusively for narcotic victims at Lexington in May 1935.

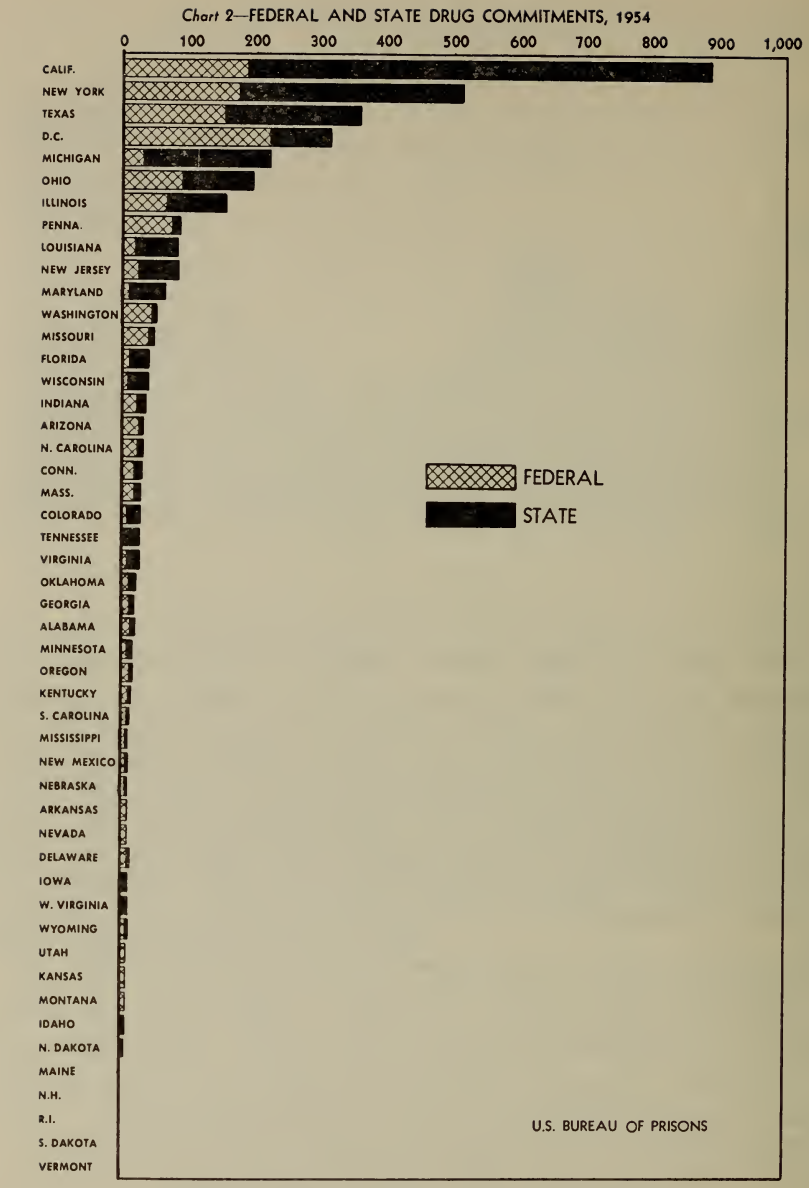
Now let's see what the situation is today so far as can be judged from figures and facts available to the Federal Prison Service. The Bureau of Narcotics currently estimates that there are approximately 43,000 persons addicted to opium, morphine, marijuana, and the synthetic drugs or 1 in 4,000 of the general population. To put this estimate in perspective we can compare it with the number of chronic alcoholics which is generally agreed to be approximately 5 million. Based upon the Jellinek formula of deaths from cirrhosis of the liver, it was estimated that there were 4,700,000 chronic alcoholics in the United States in 1955 (105). In other words, there are more than 100 times as many people who are chronic alcoholics as drug addicts. There are some 800,000 obsessive compulsive drinkers, mostly of the skid-row type, who have lost all power of self-control with reference to alcohol. I belabor the obvious, of course, when I indicate how infinitely more serious is our problem of alcoholism than drug addiction, but I want to put it in proper perspective.



Before trying to make even the most tentative generalizations about the exent to which alcoholism, narcotic addiction or other medications contribute to the crime problem let us review the statistics on narcotic drug violators available to us. We have reliable figures only for felony prisoners and they include both opium and marijuana addicts. Commitments to State and Federal prisons of narcotic law violations reached 2,993 in 1939, declined measurably during the war and began to rise again in 1945. There has been a particularly heavy increase in the last decade, reaching a peak of 4,387 in 1957 (chart 1). The statistics also indicate that the narcotic problem is concentrated in a small group of States and a few of the larger cities (chart 2). The rate for committed narcotic law violators per 100,000 of adult population for 1954—the last year complete State and Federal figures are available—ranged from a high of 53.9 in the District of Columbia to zero in Maine, Vermont, New Hampshire, Rhode Island, and South Dakota. Twenty-one States had less than 1 per 100,000, an additional 21 had a rate of between 1 and 4 per hundred thousand. Only 6 had rates between 4 and 10 per hundred thousand (chart 3).

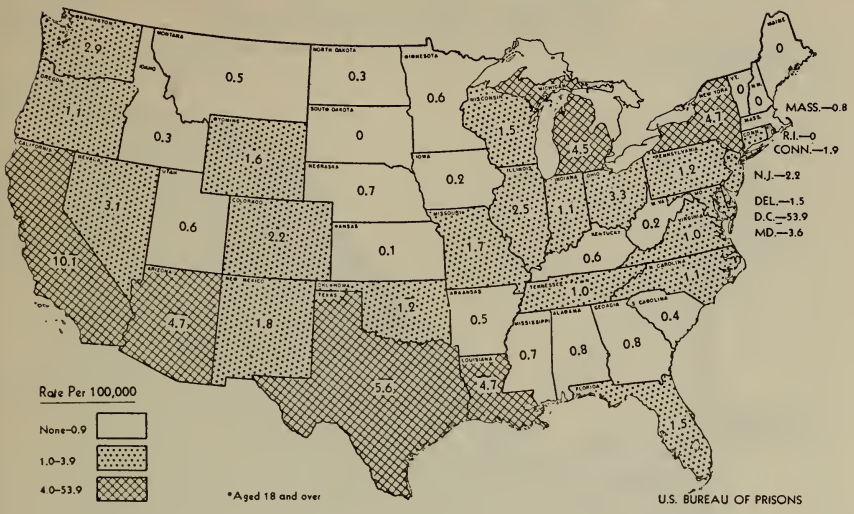
FEDERAL NARCOTIC VIOLATORS

Now a few facts as to only Federal narcotic violators. Federal prisoners confined for narcotic law violations increased from 1,565 in 1946 to 3,804 in 1957, an increase of 143 percent. This increase is partially due to the fact that those more recently committed stay with us longer (chart 4). Average sentences of Federal narcotic law violators has climbed from 19 months in 1949 to 61.4 months in 1957, or more than trebled (chart 5). The characteristics of our narcotic population has also changed markedly. Over



the past 4 years the ratio of narcotic addicts among Federal narcotic offenders has declined steadily from 59 percent in 1954 to 44 percent in 1957. One explanation of this decline may be the reported change in policy of the Bureau of Narcotics which in recent years has resulted in substantially fewer convictions on charges of possession of narcotic drugs alone (chart 6). The percentage of Negroes among Federal narcotic violators has more than quadrupled, rising steadily from 13 percent in 1946 to 53 percent in 1957 (chart 7). Parenthetically it might be pointed out that the Bureau of Nar-

Chart 3—DRUG OFFENDERS RECEIVED IN STATE AND FEDERAL PRISONS PER 100,000 OF THE POPULATION: * 1954

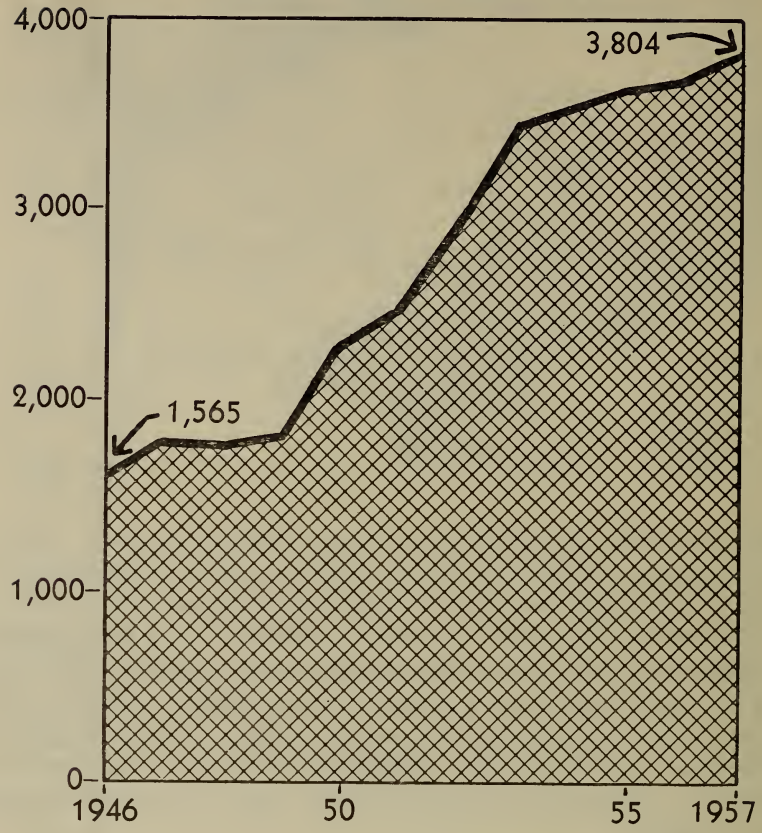


cotics estimates that 59 percent of all known addicts are Negroes. Also, the Federal narcotic offender is ordinarily older than the average Federal law violator. More than two-thirds of adult Federal prisoners are under the age of 25 but only 20 percent of the narcotic offenders are in that age group. In other words, unlike auto stealing, check forgery or various types of larceny, the drug violator is not a young, immature offender (chart 8). This can also be seen from the fact that two out of three Federal narcotic law violators have histories of prior commitments (though not necessarily for narcotic law violations) and 30 percent have three or more prior commitments (chart 9).

The case of the "average" Federal narcotics law violator can be illustrated by the following case history—selected almost at random from our case files:

> R. G. is a 30-year-old Negro who is serving 5 years for sale of a few grains of heroin to an informer. He comes from a large eastern city, was reared by a father who had frequent psychotic breaks and a stepmother who rejected him. He completed 2 years of high school and is the father of an illegitimate 7-year-old child. He began to experiment with the use of marijuana during his late teens. At 19 he began to use heroin, and shortly thereafter was placed on probation for 3 years for forging a narcotics prescription. After 1 year he violated probation by returning to the use of drugs. He was committed to Lexington on a 4-year commitment, was granted parole after serving more than 2 years and was returned after a few months as a violator. He had again relapsed into the use of drugs. While in the hospital he was a volunteer in research projects dealing with problems of addiction. He was again committed to Lexington on his current commitment and again he was described as cooperative, pleasant, and dependable. Three months

Chart 4—FEDERAL DRUG OFFENDERS CONFINED UNDER SENTENCE, JUNE 30, 1946 TO 1957



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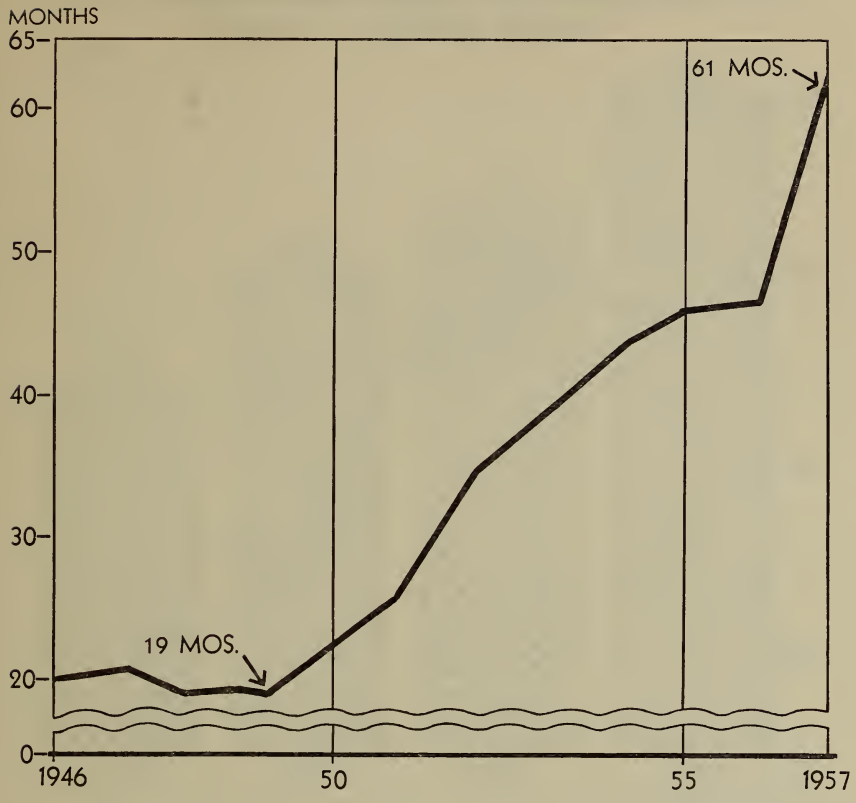
after his conditional release in the summer of 1957, he was again using drugs and a few weeks later was returned to custody as a violator. In addition to the charges involving narcotics he has a history of several arrests and convictions for petty offenses.

This man is a typical example of the current crop of narcotic violators. Change his name and modify the descriptive data only slightly and the circumstances will fit hundreds of commitments received in Federal institutions during the past 10 years.

SOCIAL MECHANISMS FOR CONTROL

Tabulations of State laws in 1955 showed that for the first conviction for sale of narcotics the minimum penalty ranged from no minimum in 18 States to 20 years in 1. The maximum penalty varied from 3 months in 3 States to 5 years in 26. Life imprisonment was the penalty in 3 States. In most instances States having the longer penalties are those with the greater

Chart 5—AVERAGE SENTENCE, FEDERAL DRUG COMMITMENTS, 1946–1957

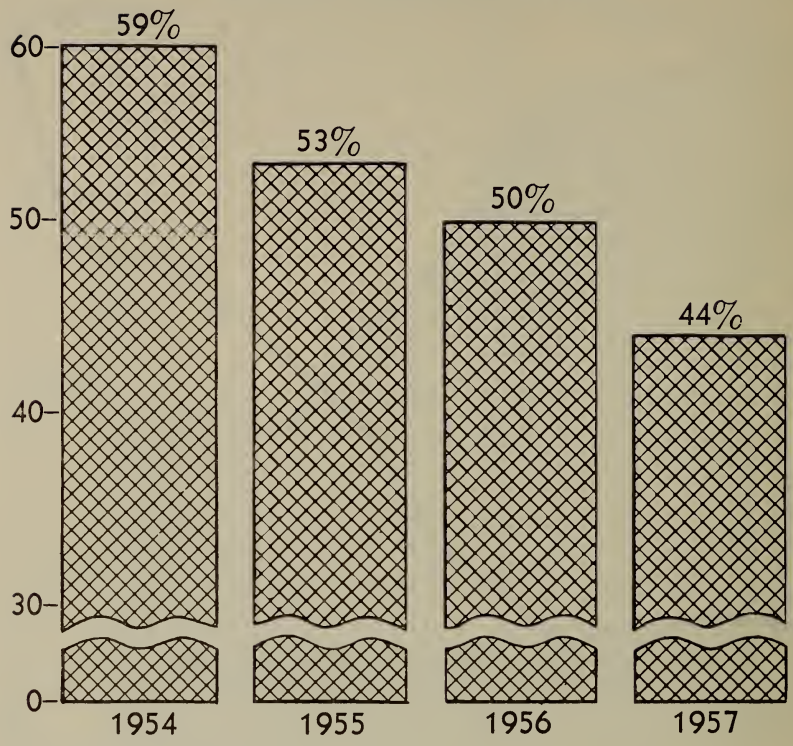


amount of traffic in narcotics. A few States have since 1955 enacted even more severe mandatory penalties for sale of narcotics.

The role of the Federal Government in controlling the drug traffic varies widely. In a few areas most of the narcotic law violators come into Federal courts; in the majority of States most cases are brought into State courts. In still others the same offenders are tried in both State and Federal courts on charges having to do with the same transactions. One Federal judge, after sentencing a group of narcotic violators, was so concerned over the duplication of prosecution that he called a conference of Federal and local officials in an attempt to resolve this problem.

There is no consistency across the country in prosecution policy with respect to State or Federal jurisdiction over cases. One might pose the question whether the Federal Government accepts for prosecution only the major offenders who are involved in importation, interstate transportation, and are the heads of narcotic rings, while States accept the local and relatively minor violators, as is frequently believed. This, however, is not the case since numerous minor violators are committed to Federal institutions. The question has also been posed whether it is the policy to take violators

Chart 6—NARCOTIC ADDICTS AMONG FEDERAL NARCOTIC OFFENDERS, 1954–1957



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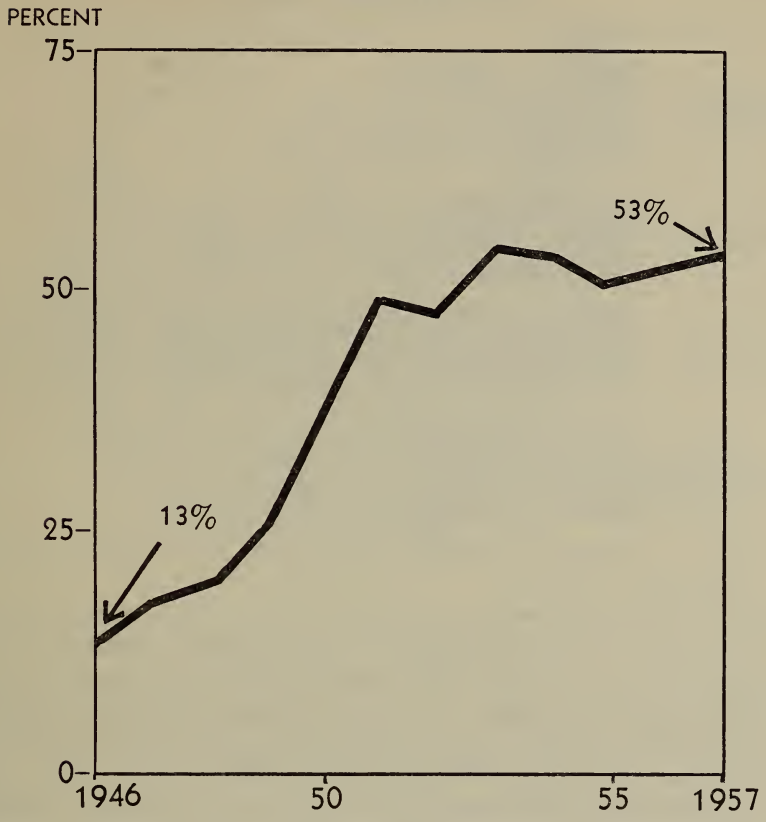
into the court where the penalties are the more severe or where the rules of criminal procedure make the chance of conviction more certain. While no studies have been made on the subject, it does appear that at least in some States the decision as to who will prosecute is based upon these considerations, or upon chance, or upon the agency that first apprehends the offender. Perhaps no absolute line of demarcation between Federal and State prosecution can be made, but it is apparent that here is a matter in need of discussion and policy formulation.

In formulating policies as to prosecution and areas of responsibility for controlling the narcotic traffic, there are several factors, it seems to me, that should be taken into account. First, the obvious fact that a higher priority is now assigned to the suppression of the traffic through application of heavy penalties than by efforts to isolate, treat and followup on the user. The addict who becomes involved in the traffic, often as a minor "pusher" in an effort to support his habit, is subjected to the same mandatory penalties as the predatory wholesaler or retailer who is in the business primarily because of the attractiveness of the financial rewards. The experience we have

Chart 7—NEGROES AMONG FEDERAL NARCOTIC COMMITMENTS
1946–1957



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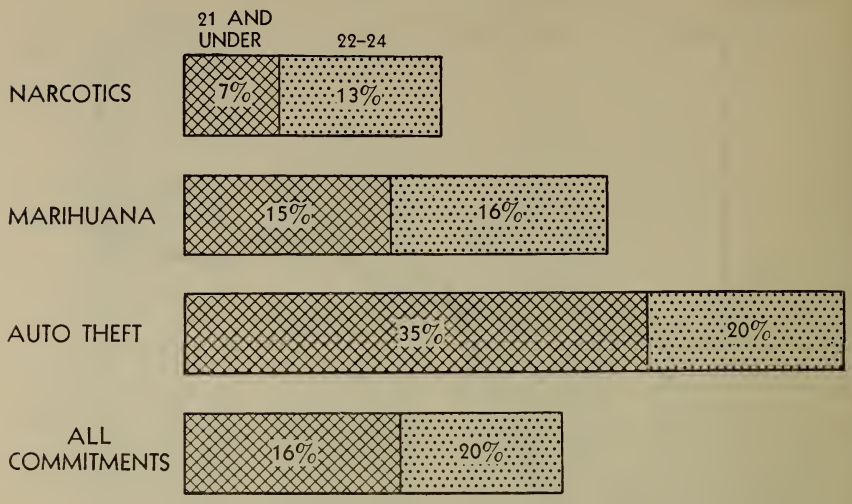
thus far had with the severe penalties in the Narcotic Control Act indicates that the financial attractions for the seller and the psychological needs of the addict tend alike to obscure the seriousness of the penalties which attach to conviction.

PUBLIC HEALTH SERVICE HOSPITALS

As mentioned earlier, an approach was made a generation ago toward the solution of the problem of the addict. The legislation creating the U.S. Public Health Service hospitals, first at Lexington and a few years later at Fort Worth, was predicated upon the policy of treating narcotic addiction not as a problem of public morals, but as a concern of public health. Over the years these institutions have performed valuable service not only to the individual patients but also through amassing volumes of research data which furnish significant insights into the causation and treatment of narcotic addiction.

Chart 8—FEDERAL NARCOTICS AND MARIHUANA COMMITMENTS* AGED UNDER 25: 1957



* Except juvenile delinquents

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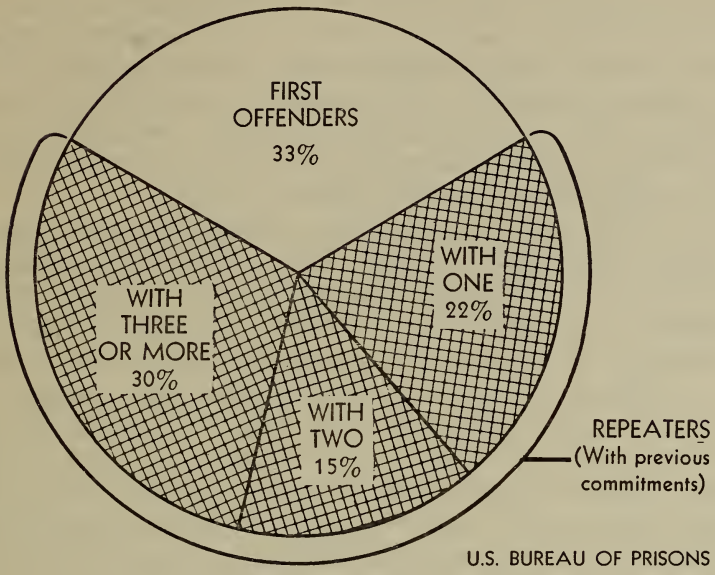
Viewed realistically, however, the hospitals have fallen somewhat short of the optimistic hopes of those who took part in their establishment and participated in their programs. The reasons for their shortcomings are not difficult to assess in retrospect. They have obviously been able to provide treatment for but a relatively small fraction of the patients who might have benefited from their services. They were also called upon to treat a complex and heterogeneous accumulation of voluntary and involuntary admissions. But, perhaps the greatest handicap under which they have operated has been the assumption held in many quarters that the treatment of the narcotic addict can be accomplished entirely within the confines of the hospital itself. This assumption ignored the fact that if the addict were to be given the support and guidance needed to prevent or to minimize the possibilities of a relapse, someone would have to provide specialized aftercare to assist in the social rehabilitation of the patient. In quite recent years the role of the hospitals, insofar as the treatment of prisoner patients is concerned, has of necessity become a more limited one because so large a proportion of the convicted addicts have been committed for such long terms as to make them unresponsive to treatment. They are so discouraged, defeated and embittered by the long sentence they will not cooperate in self-improvement.

Thus, in the space of a quarter of a century we have apparently made a full circle in our approach to the needs of the convicted addict. The problem seems well on its way once again to becoming a "prison" problem. I confess we face this prospect with a feeling of discouragement and a sense of futility.

Chart 9—REPEATERS AMONG NARCOTIC COMMITMENTS TO FEDERAL INSTITUTIONS: 1957



CRIME AND PUNISHMENT

Another important consideration to be taken into account in determining penalties and prosecution policies is how much of a menace the addict may be to others than himself and his own kind. It has been pretty well established that the drug user does not commit serious crimes of violence—aggravated assault, bank robbery, kidnapping and major crimes of that type. I know from my own experience that the "junkie" is not considered reliable by other prisoners. They shy away from him, do not take him in on any criminal plans for fear that he will "squeal" when deprived of narcotics. They look upon him as "chicken," who has only enough courage to snatch pocketbooks, forge a small check, act as a pimp or as a prostitute. There are no real desperadoes who use drugs or will team up with anyone who does.

The problems faced by the prison administrator who must deal with any considerable number of drug offenders require no lengthy elaboration. No prison program is equipped properly to treat the addict. The story of the present inadequacy of psychological and psychiatric services in State and Federal correctional institutions alike has been told too often to require repetition here. I am not here to apologize. We have had the very good help of the Public Health Service in staffing our hospitals; Dr. Felix and the late, greatly lamented Dr. Cronin, Dr. Jack Masur, now superintendent of this hospital, Dr. Treadway when he was there, and Dr. Kolb when he was there, did everything they could to help. But still we were unable to recruit

the psychological and psychiatric staff that were needed in our institutions. Without such resources, the prison remains unable to begin to meet the basic needs of the addicted offender. Prisons, both State and Federal, in the years immediately ahead will be faced inevitably with the problems of narcotic offenders, addict and nonaddict alike, who are weighed down by the hopelessness and the bitter futility of sentences which seemingly stretch into infinity. What can the institution offer the man serving 30, 50, or 80 years with no prospect for parole or hope of mitigation of his sentence?

The extreme situation is well illustrated by the case of—

> G. S., who at 21 became the first offender sentenced under the Narcotic Control Act of 1956, to a life term for selling small amounts of heroin to a 17-year-old associate. S., an inadequate Spanish-American youth with an IQ of 69, has been an epileptic since 14, an addict since 20. After some 14 months hospitalization in a California State Hospital, he returned to Los Angeles where opportunities for even occasional employment were limited. Twice arrested, he was once placed on probation for taking part in an affray and once for statutory rape. He had no prior arrests for narcotic violations. It seems clear that his activities as a "pusher" were motivated by his efforts to support a habit which at the time of his arrest required eight "caps" a day. This, then is the picture of the first Federal prisoner sentenced to a life term—the first sentence which really means life—since the enactment of the Federal parole laws in 1910. Every other man in our institutions has some hope—something to look forward to. You can therefore imagine what a problem he is and will be.

Now, I am not saying, mind you, that severe penalties are not necessary for certain types of these cases. I believe they are. But like Judge Dimock, I think that each case has got to be considered on its individual merits and the person committed according to the character and quality of his offense.

In addition to the problems arising from the lack of necessary treatment facilities and the long sentences, the prison warden is faced with other difficult administrative problems. All institutions which receive narcotic law violators know, for example, the problem of the informer. Fairly typical is the case of P. R.

> This man was the key witness in the prosecution of a million dollar drug ring. An addict with a few years' history of addiction, he had had three prior felony commitments on charges of murder, robbery, and forgery. Three arrests for narcotic violations were dismissed. Although he testified fully for the Government he nevertheless received a 5-year sentence, the minimum that could be given in his case. On commitment to prison it was necessary to move him to an institution some 1,500 miles from the point of conviction in the hope his role as an informer would not be known to his fellow prisoners. He, however, believed his reputation followed him, and so during his entire term he

lived in a perpetual state of fear and required the closest possible supervision.

Still another illustrative example is F. W., a 50-year-old addict whose record dates to 1927 and who has spent about two-thirds of his adult life in institutions. His record includes two commitments to Lexington, one State penitentiary term and an almost endless series of short-term jail commitments. He is now serving 5 years for possession of narcotics. Shortly after his admission to the hospital in 1954 the medical officer in charge at Lexington reported: "This man has engaged in informer activities in many places for many years. He is unsuitable either for our general population or the informer unit because he has informed against persons in both groups." During the past 3 years W. has been successively confined in three other institutions and is currently at Springfield. Through the years, he has been almost a compulsive informer and a constant problem of institutional management.

Problems are also presented to the prison by the ever present danger of the introduction of contraband narcotics. A number of recent abortive attempts to introduce such contraband into Bureau of Prisons institutions have been frustrated only by the careful vigilance of prison officers. Other attempts will inevitably be made. As institutional officials confront the dangers of escape, contraband, and other hazards which are present as the result of a new concentration of narcotic law violators with long sentences in institutions housing other offense groups, there will be a natural tendency for many institutional programs to become more restrictive in character. Some of the benefits of a more relaxed institutional climate which has been developed over the past decade may well be lost in the process. The hopeful prisoner will naturally suffer as a result, custodial costs will mount, and other rehabilitative activities will be handicapped.

PROBLEMS OF THE FUTURE

The problems described give special urgency to the need for restudying Bureau policies with respect to the housing of the narcotic group. Not long ago nearly all male narcotic violators not confined in the Public Health Service hospitals, were concentrated in the correctional institutions at Milan, Mich., and Texarkana, Tex. This practice was adopted in part because it appeared somewhat easier to handle the problems which they presented if they were not distributed throughout the system. Also, it was believed desirable to minimize the opportunities which traffickers might find to recruit others who had not previously figured in the business. But, with the ever-increasing number of narcotic offenders being sent to prison we simply do not have sufficient institutional facilities to provide the desirable segregation. Today the narcotic offenders comprise the largest offense group not only at Milan and Texarkana, but also at our west coast institutions at McNeil Island, Wash., and Terminal Island, Calif. This point is also rapidly approaching at the U.S. Penitentiary, Leavenworth, Kans. Fourteen other

major institutions of the Bureau are currently housing narcotic violators in larger numbers than at any time in the past. Barring a major shift in prosecution policy, this trend will probably increase as these offenders bulk larger in our prison population. A practical question, and one in which the Bureau needs thoughtful assistance from the medical profession, and particularly with that segment which is well-informed about the problems of treatment of addicts, is whether renewed effort should be made to obtain the funds for specialized facilities for segregating narcotic offenders from other offense groups.

Still another real concern is the costs which accrue from the requirement that long-term institutional care be provided for the narcotic violator. Barring any increase in the average per capita cost for the care of Federal prisoners, the taxpayer will pay something in excess of $5,000 for each prisoner sentenced to serve 5 years; double that amount for each man who serves a 10-year sentence, and upwards of $50,000 for each man sentenced to 50 years. Today it costs well in excess of $5,800,000 per year for the care of narcotic violators confined in Bureau institutions. Assuming no increase in costs and only the anticipated increases in population which result from the longer terms of imprisonment imposed, the bill to the taxpayer 5 years from now may well be at the 7 million dollar mark. This is obviously a heavy price to pay for a program which cannot hope to provide much more than custodial care. We must therefore face up to the question as to whether funds wouldn't be better spent on some form of community supervision and care of addicts.

In this connection it must be remembered that the addict released from prison is doubly stigmatized. He must face not only the hostility and the suspicion which the community reserves for the "ex-con," he is also an "untouchable" because he has used drugs. His position is made the more untenable by the lack of care services he needs to work out his problems of community adjustment. Thus, all too frequently, the vicious circle closes and the offender finds himself on the road which must inevitably lead him back to the gates of the institution.

The delineation of this picture leaves us with small basis for optimism. We are faced with a number of major problems none of which is capable of easy solution. What, for instance, is the future of the Federal narcotics hospital? Is its function to be limited to the treatment of the volunteer addict? Can we better delineate the responsibilities of the Federal and the State governments for control of the traffic or treatment of the addict? By the way, this is one place where the argument about "States' rights" is never raised. If a consensus is reached that the problems of narcotic addiction are, and as a matter of public policy should continue to be regarded primarily as a problem of public health, how can we best foster a community climate of opinion which will accept the need, both at a State and Federal level, for more adequate, more realistic, and more medically and psychiatrically oriented treatment resources?

My own view is that the problem of narcotic addiction must ultimately and properly be defined as a health problem, not as a problem of morals, or a problem of crime. The past 25 years have, I feel, demonstrated amply that neither the punitive approach nor hospitalization alone provides the answer. One approach for the future which commands attention involves greater emphasis upon providing in the cities where the narcotics cultures exist, competently staffed clinics which would provide for the addict supportive services not unlike those which are provided the alcoholic in some communities at the present time. This does not mean the addict would be molly-coddled, given routinely the drug he craves, or accepted as incurable. But, he would be registered, assigned to a capable case worker, given employment in a sheltered workshop, if necessary, and rigorously followed up by one with authority to institutionalize him if necessary.

In the final analysis the responsibility of the community to provide continuous and long-term care for the addict is not significantly different, in my opinion, from that which it owes not only the alcoholic, the person whose mental illness is in remission and who no longer requires hospitalization, or other physically or emotionally handicapped citizens. It is also my personal conviction that such a rational program would in the long run prove more economical than present methods, and would in addition contribute to a reduction of the narcotic traffic which must depend for its continuing existence upon the demand for illicit drugs.

A practical solution to this most difficult problem cannot be found in actions based upon fear or motivated by vengeance. It is to be hoped that the day is not too far distant when reasonable men who share in the responsibilities for finding solutions, whether they come from the field of law enforcement, administration of justice, or public health, may take the opportunity to reevaluate our present methods in the light of objective facts and chart new patterns for the future.

A PHYSICIAN VIEWS TODAY'S NARCOTICS PROBLEM

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Professor and Director of Psychiatry and Neurology
University Hospital
New York University College of Medicine

I am very glad to follow Mr. James V. Bennett. If Mr. Bennett does not already have a medical degree, I believe he should be given one, because his attitude is that of a physician. We have had so many interesting differences of opinion here in the past 2 days, that one wonders whether Bertrand Russell were not justified when he said that there is a need to develop a new declension. He suggested several models for this: "I am firm, you are insistent, he is practically pigheaded." Or, "I think, you cerebrate, he theorizes." Or one which is particularly pleasing to a psychiatrist, "I am openminded, you are uncertain, he is positively schizophrenic."

Like all human beings, I harbor prejudices. But before you close your ears and minds to my position, let me assure you that some prejudices have a proper place in the processes of the mind. They must be reckoned with as a natural factor in our thinking, and are not to be regarded in any sense as abnormal. It is easy to insist that our reason should be free of all taint of prejudice; but no one of us actually maintains a consistent and continuous perfect score in this skill. There is reason to believe that prejudices steal silently into our deliberations, judicial as well as medical, despite our most vigilant guard. However, there is also reason to believe that some prejudices are good, useful, and even commendable. You should therefore know at the outset some of my prejudices as a physician that bear on my reasoning, and I believe equally influence the reasoning of other physicians. Physicians have some wonderful prejudices that I believe largely color medical reasoning.

One of our prejudices is our interest in people. We want to help people; we seek to preserve life, and to diminish or stop pain and anxiety. We have faith in the essential goodness of humans. We know that some humans are able to withstand great stress, others cannot, and we try to understand and help both of them. We are especially prejudiced in our interests in the patient. Since the fourth century, B.C., physicians have been prejudiced by the Hippocratic Oath, which states in part, "The regimen I adopt shall be for the benefit of my patient, according to my judgment, and not for their

hurt, or for any wrong." The physician of every tomorrow, like the physician of every yesterday will be he who spends himself in giving. We have honored several such physicians here these past few days. Value is returned to the physician a hundredfold in the affection, the adoration, of his fellow man. Keep in mind that the physician's medical prejudices are to heal and not to punish. This, ladies and gentlemen, is a physician's fundamental philosophy.

THE ROLE OF PHYSICIANS

In view of these attitudes and prejudices, the practicing physician's lot in the United States today is an unhappy one as regards his role in the treatment of the drug addict. In England and Western Europe, the treatment of drug addiction is primarily a matter for the physician. The medical profession of the United Kingdom as represented by the British Medical Association is virtually in control of the distribution of narcotic drugs, and this includes distribution by prescription or administration to addicts when necessary. In that country the police function is to aid and protect medical control, rather than to be a substitute for it. In this country, the opposite I fear, has been achieved.

Although it is true our present laws permit a physician to treat an addict in good faith, and in the course of his professional practice, doctors are most reluctant to do this. There is difficulty in the interpretation of what may be considered good faith. Adherence to proper professional medical standards can be determined legally only after trial and decision by a judge and jury. Moreover, the good judge and the good jury have no authoritative criteria to refer to, such as have been established by the British Medical Association. In fact, American physicians have been lax, I believe, in not asking the American Medical Association to lay down professional ethical criteria by which a physician's treatment of an addict might be judged. It is certainly within the realm of the American Medical Association's authority to determine what constitutes good faith and proper, acceptable medical practice in dealing with the treatment of drug addicts *before* the physician undertakes to treat any drug addict outside of Lexington, Fort Worth, and Riverside hospitals. Without such criteria and standards, the physician who attempts to treat an addict today may find himself prosecuted and possibly imprisoned, with his license revoked. By adhering to such established standards and criteria laid down by his official national professional society, the physician would not be subject to the fear of criminal prosecution, and he would be able legitimately to treat a group of sick and unfortunate people whose personality illness certainly comes within the realm of medical concern.

My legal friends tell me that the present law provides a framework within which my profession, acting through the American Medical Association and the American Psychiatric Association and other accredited national medical societies, can by itself determine what it believes the role of the phyiscian should be in the treatment of the addict and the problem of

addiction. This is a challenge to the American medical profession; I believe we can, and eventually will, deal with it in the patient's and the public's best interest.

I am sure all of you realize that addiction is the only disease—the ONLY disease—with proven physiological and mental disturbances in which the physician in the United States of America is restrained by the threat of law from furnishing the patient sufficient comfort that he may engage in a useful profession or occupation. This restraint is lacking in many other countries, with no apparent serious public harm. Now medicine and physicians see drug addiction in one perspective. The law and some law enforcing agencies see it in a different perspective and with their special prejudices. And the public is periodically fed exaggerated, fearful perspectives of the drug addict as a heinous aggressive criminal.

Physicians today take the position that drug addiction is a disease or perhaps a sympton of personality difficulty, which if it did not lead to drug addiction would show itself in other evidences of maladjustment. It is also clear that social, economic, and cultural factors, and others besides personality factors must be operating. The psychiatric identifications, the psychodynamic explanations, the pharmacological effects, and the socio-economic factors all fail to give us, as of now, any one specific cause or set of causes resulting specifically in addiction. Many people with psychodynamic patterns and personality patterns similar to those of addicts never abuse narcotics. Why one patient under stress eats too much, another uses alcohol, a third takes Miltown, or a fourth takes heroin, depends on a great many factors. At present some of these are not known to us. Physicians know that all addicts are not the same. Psychiatrically sound persons who accidentally become addicted represent a small percentage of the total addict population. Some addicts are inadequate people, some have serious character disorders, some are neurotics with anxieties and phobias and obsessions and compulsions; only a very small percentage are psychotic. Many cannot be accurately labeled but have mixtures of traits of personality imbalance. Admittedly, most of the drug addicts seen in institutions in the United States today are difficult to treat. But truly, we need more information about many persons with healthier personalities who may have been addicted for short times themselves, and who broke the habit. Some studies in the adolescent group have shown that this happens not infrequently. Such persons exist and their experience helps brighten the medical rehabilitation view of this problem. Physicians feel that to penalize the addict for being an addict without attempting to treat his personality disorder or his mental condition is hardly consistent with either good science or good morals.

THE ROLE OF OTHER PROFESSIONALS

The law, on the other hand, has largely been colored by and has acted on the premise that drug addiction was largely a vice which could be con-

quered by an effort of the will. However, we have heard it said in the past two days that free will does not operate in the same way when a person is addicted. Laws have been instituted against the drug addict imposing severe penalties aimed to pressure or compel the addict's will to make stronger efforts to conquer his vice. The general idea behind some of these measures is, "if it doesn't hurt, it won't work." Mr. Bennett has given us evidence to the contrary.

Some law enforcement agencies act on the premise that the larger the penalty, the better the cure. This is, of course, accurate in the extreme—in the death penalty.

Perhaps some people think death produces the perfect result! I must hastily add that many distinguished jurists have been dissatisfied with the severity and inflexibility of some of the recent laws concerned with the punishment of the addict. Judge Mullen, in a hearing before the New York Joint Legislative Committee on Narcotics Study, said that "when laws do not make sense the people who are punished under them are not rehabilitated. They become bitter and you do not do much to redeem them to society." Chief Magistrate John Murtagh wrote, "The narcotic problem is not being solved by sending drug addicts to prison. Only when we realize that this problem is basically a social and a medical one will progress be made." Judge Ploscowe's report, published by the Russell Sage Foundation, is well known to most of you.

On one point, both medicine and the law agree: and I wish to stress this—that good enforcement, vigorous prosecution and stern justice should be the lot of the nonaddicted purveyor of narcotic drugs. Medicine does not want to substitute for or modify law enforcement for this criminal. On the other hand, law enforcement should not and cannot be a substitute for medicine as regards the treatment of the narcotics addict. It is common public health practice to legislate for the control of disease, especially when the specific cause or etiology is known and especially, if it is a communicable disease. Many medical conditions, however, are not amenable to legislation. Legislation will not stop hardening of the arteries. The virus of the common cold is not limited by law. Legislation cannot bring love and affection into an unhappy home or give children a basically secure foundation in life or prevent or substitute for the treatment of personality disorders or neurotic or psychotic illnesses. We cannot legislate the subtle attitudes that mold personality. Legislation will not stifle the sex impulse or stop venereal disease.

Now doctors and lawyers each have special skills. This reminds me of a story told many years ago by the Reverend George Gordon of Boston. He said—

> You know, I have had considerable experience in membership on civic committees of one kind and another, and it would be my considered judgment that if you are ever serving on a civic committee, you would do well to respect the professional training of the various members on

the committee and assign their work to them with regard to that same experience. Now it would be wise to use your physicians to make the examination of the status quo. They are trained in observation, they are in touch with a wide range of the population, they are accustomed in knowing the worst and doing the best they can, and they will turn in to you an honest and straightforward report. But the doctors have one grave defect—they are so surrounded by adoring patients, frightened families, and obsequious nurses that they are not accustomed to having their opinions or recommendations brooked by God or man. So when you have your report from the physicians, deliberately take the matter out of their hands and go to the lawyers for methods of procedure. Lawyers have a great trait. They are perfectly capable of criticizing each other's plans and suggestions the whole forenoon, the entire afternoon, and still dining amicably together in the evening, which is a great deal more than the doctors can do. But the lawyers have a great defect—they have become so fascinated by the intricacies of methods and relationships and the complications of equities in the matter that they are capable of discussing ways and means for a virtually indefinite period so that when plan number five, as amended twice begins to look suspiciously like the first proposition that was before the committee, deliberately take it out of their hands and give it to businessmen. Now the businessman is congenitally incapable of examining anything, but he has one great quality, when he has something to do he will proceed without delay or hesitation over the equities until the thing is accomplished.

ADDICTION AND CRIME

I hope that we can come to agreements and not leave problems of science and law to be settled by Gallup polls of the general public. The public has been led to believe by many dramatic headlines and lurid news stories, that opiates, by themselves, apart from the physiological phenomenon of physical dependence, directly incite the drug user to violent, aggressive assaultive criminal acts and sexual crimes. Nothing could be farther from the facts; for opiates calm the user, create a pleasant dreamy state, and depress sexual drive. They may, however, diminish anxiety and supply a kind of false willingness for the addict to commit petty thievery. There are definite relationships between drug addiction and crime. In the United States, every drug addict is by legal definition a law violator and criminal, made so by his compulsion for the drug. For most chronic narcotic addicts, predatory or property crimes such as shoplifting and larceny, sneak thievery, burglary, prostitution, and robbery are the easiest way of getting money to buy drugs. Addiction results in a large and permanent increase in the volume of crime as evidenced by court statistics in New York, Los Angeles, Detroit, and Chicago.

On the point of whether addicts are involved in criminal behavior before or after their addiction, medical researchers and law enforcement authorities hold opposite opinions. Pescor and Kolb in 1943, and Maurer and Vogel in 1928, in their studies have shown that there is a difference in opinion as regards their interpretation and that of the Commissioner of the Narcotics Bureau, who takes the view that drug addicts are usually criminals first before becoming addicted. The physicians, I believe, have evidence that 75 percent of patients in Lexington had never previously been arrested or had a history of delinquency prior to addiction. The Chicago and the New York studies of subjects coming from areas with high delinquency and crime rates showed that delinquency both preceded and followed addiction to heroin. The most impartial students of this facet of drug addiction have clear evidence that no significant percentage of addicts commit violent crimes while under the influence of drugs. As has been said here before, alcoholism, and certainly driving under the effects of alcohol, is a much more serious public health matter. For example, at Bellevue Hospital, we see approximately 10,000 alcoholics a year and many with delirium tremens which is a serious complication. Many of them die. You all know from studies of driving accidents in many States that the alcoholic who is behind the wheel is a serious killer. Yet our press does not crucify the sick alcoholic as it does the sick addict. All of this, of course, must quite naturally raise the question of whether the confirmed drug addict should have a means of obtaining his drug legally so that he will not have to engage in criminal acts to raise the money needed for the drug, needed to avert the pain of withdrawal. This is a basic question and is related to how we deal with the problem of treatment and rehabilitation of the addict.

Let me repeat, all of us will agree that stringent law enforcement has its place in any system of controlling narcotic drugs. However, it is equally apparent that harsher laws are by no means the complete answer to the problem of drug *addiction.* No one wants to be lenient with the peddler. He should be dealt with severely. The addict, and the addict peddler as well, must be considered in a different category. If we could come to agreements on this simple distinction, medicine, the law, and law enforcement agencies could more effectively cooperate in enlightening and guiding the public.

PROPOSALS FOR ACTION

Let me list some of the present-day needs and problems as seen by the physician, recognizing full well that there can be no single regimen for the elimination of an illness so complex as drug addiction. What do we need and what shall we do in a positive and constructive program of action?

I. First, it seems to me, we need to develop methods through medical and legal cooperation for the civil, *not criminal,* commitment of addicts to designated civil institutions for treatment. Addicts who are guilty only of

illegally possessing or obtaining narcotics should be certified by legal commitment for compulsory treatment for an indefinite period, which would depend on medical judgment and individual patient needs. The same procedures as are now used for the certification of a chronic mental patient should obtain.

No one would consider that the maintenance of drug addiction or even the medically controlled withdrawal is synonymous with treatment. Such patients should therefore be treated during the withdrawal period and the much longer and much more important psychotherapeutic rehabilitative program, over a period of many years if necessary. Some persons have suggested a 3-year certification period. I would prefer to see it an indefinite certification based on the subject's needs, his motivation, his progress toward cure or his lack of it. The same arrangement for medical discharge on parole as is available for every other psychiatric patient should be available for the treated drug addict.

We know that there is good motivation in only 10 percent of addicts from the studies done at Riverside Hospital under Dr. Gamso's direction. Criminal sentences for illegal sale of narcotics should be retained, but persons who are themselves addicts and who are sentenced for such offenses should have the same opportunity for probation and parole as is afforded other addicts. There is much legal opinion and some medical evidence that mandatory minimum sentences for addict violators may hamper both treatment and rehabilitation of addicts. Abolishment of mandatory sentences seems indicated.

Voluntary admission for the treatment of addiction by certification for a minimum of 6 to 12 months should be encouraged. More practicing physicians need to be educated in the problems of the modern treatment of drug addiction. I should like to add that all physicians in the world are extremely indebted to the very basic work on addiction that has been done by the group in the U.S. Public Health Service. No other country has had this degree of wisdom and foresight and such a wonderfully devoted group of scientists.

II. Second, we need urgently more institutional care programs. With an estimated 50,000 to 60,000 drug addicts in the United States, and a combined hospital patient capacity of Lexington, Fort Worth, and Riverside of only 2,500 patients, you can see that there is a terrific lag between our needs and the available treatment resources. It is obvious that the medical treatment facilities are inadequate, but let us not put up new buildings; I do not believe we need them. Successful treatment involves two important procedures, (a) cure of the physical need for the drug, and (b) cure of the mental condition that makes it so attractive. It is possible to make effective use of existing facilities and psychiatric hospitals, with additional staffs to deal with addiction treatment and rehabilitative problems, in those areas where the problem is greatest, viz, New York, Chicago, Los Angeles, and Detroit.

These treatment facilities will also need midway or halfway facilities to really be effective. All the evidence we have points in this direction. There is need for the cooperation of special units such as the Public Health Service demonstration centers established in New York and Chicago, to provide needed data on the best procedures and agency facilities to be used in a more extended rehabilitation program.

III. Third, we need long-term compulsory post-institutional care and treatment. This is certainly proving to be essential if we are going to do anything of lasting value for the drug addict. Here prolonged intensive individual and group psychotherapeutic help, social service, vocational rehabilitation, including job training and protected job placement, should be given the "recovered treated addict" after he leaves the closed institutional setting and while he continues on parole status. Again, experiences at Riverside Hospital and recent experiences in Federal hospitals highlight the need for such a program.

IV. Fourth, outpatient clinics for the treatment of drug addicts have been the subject of much controversy. Recommendation for a special clinic program was advocated by the New York Academy of Medicine, various county medical societies, and finally through Dr. Eggston, went to the American Medical Association. Many other serious and responsible medical, legal and community groups have considered this option. Previous trial of such clinics, 1919 to 1923, was not successful. It was stopped *by the physicians themselves,* at their own request, although their evaluations of clinic successes and failures are not entirely convincing, as seen at present, in view of the incompleteness of the program ventured.

The American Medical Association's report considering these recent proposals, concluded "that from available evidence at the present time it does not seem feasible to recommend the establishment of clinics for the supply of drugs to addicts." I would agree with this, but I believe there would be value in a limited, small experiment in one very carefully controlled unit. We should move slowly in this direction. Why not set up such a small experimental unit, connected with an accredited university or Federal or properly established State hospital? One has been suggested, as you know, for the District of Columbia, with provisions for the most careful supervision by physicians and health administrators such as would satisfy even the most skeptical. Judge Ploscowe's committee has suggested the District of Columbia as a suitable focus for such an experiment with the additional suggestion made by Dr. Kolb through the years, that this unit be provided with adequate medical consultation. I am opposed to the establishment of an isolated outpatient facility for the treatment of drug addicts without an associated hospital inpatient treatment facility. If such an experimental program is set up, we must be careful not to legislate research procedures to the group involved in such an experimental trial. Doctors and helath departments are fully capable and ethical policemen of their own profession to do this job honestly.

We have heard much about our needs and about our lack of information, and it is clear that much more research is needed to guide us more insightfully and effectively in handling the narcotic drug addict. I was interested to hear Mr. Bennett's revelation of the costs of managing addicts in the Federal prisons. The narcotics prisoners cost $5,800,000 a year. Just think of the petty amount that is devoted to research at the Lexington Addiction Research Center—I think the figure is $250,000 a year. The ratio is 23:1 that is contributed toward the management of an increasing problem as compared with that provided toward trying to solve the problem!

V. Fifth, we certainly need more research in the medical, the legal, and the sociological aspects of this problem, to guide us toward better and more effective handling of the drug addict. We need more research on prevalence and on causative factors. We need more research on factors that yield relapse. We need much more information about the causes of the cyclic epidemics of addiction: Why one occurred 25 years ago and another one a few years ago we do not know. We need more work on the neurophysiologic and the neuropsychologic factors of addiction. We need a great deal more information about various methods of treatments by drugs and psychotherapeutic means. We need further research on the development of more precise diagnostic tools.

Lawyers and jurists ought to join forces, I believe, in developing a program for legal research relating to narcotic drug addiction. A good deal could be done in the formulation of a model law for the civil certification of the addict. Much could be done to formulate a model law whereby the peddler will be punished severely in penal institutions but the addict, the sick addict, will be dealt with medically in a hospital. We need continuation of the kind of work done by the American Bar Association and the American Medical Association's Joint Committee to consider Federal and State laws with the objective of implementing medical and social rehabilitation of the addict, rather than having the goal of punitive degradation of the individual. It always has seemed strange to me that in New York City, when a person is convicted of a crime or is charged with a crime and there is a question of his mental capacity or his ability to be responsible, he is sent to Bellevue Psychiatric Division for an evaluation. If we find he is sick, by and large the courts have been willing to accept this judgment and to consider the person should be dealt with civilly with the charges held in abeyance until he is properly treated. I see no reason why this could not be achieved as well for the sick narcotic drug addict. We need more social research. Dr. Chein's statements on this point are excellent. We need studies on the influence of the social and cultural attitudes leading to addiction and as well those preventing addiction, and the effects of families and other social groups upon addiction.

I believe there is one other need of a general nature. That is the need for State and regional narcotics commissions which could coordinate the work of the study and the treatment center groups I have described. Such

interdepartmental resource boards as you might call them, at the State level, which should include health, welfare, law and correction would serve to protect the physicians and other persons engaged in extending therapeutic frontiers through research.

These are some of the problems and needs in the field of drug addiction as seen by physicians today. I believe you will agree that physicians with their prejudices for helping these sick people have much to offer. We hope that law enforcement will not be substituted for medicine in the solution of public health problems relating to narcotic drug addicts. Medicine, the social sciences, and the law must cooperate in helping the addict. Perhaps we need the touch of the humanist in all of this, for humanism offers much to all three fields, especially perhaps to medicine where the physician often finds a still imperfect science sadly inadequate to many of his patients' needs. For in all illnesses, drug addiction included, shame, fear, anxiety, pain, and uncertainty call for understanding, sympathy, imagination, courage, and companionship. I am certain that these qualities are present in the best of men be they physicians, law enforcement agents, lawyers, social scientists, or lay persons. Let us all invoke these humane qualities to encourage independence, originality, honesty and a graceful humility in understanding and helping our sick fellowman.

DISCUSSION

Jefferson: I am Captain Jefferson of the Metropolitan Police Department, Washington, D.C., presently commanding the Narcotics Squad. I would feel remiss in my duty to my department and my obligation to other law enforcement officers here present today if I permitted this truly representative group to depart to their respective homes without attempting to clarify some misconceptions of the Washington Police Department which they might have acquired during these proceedings. I believe that quite a number of this group have at one time or another been misquoted by the press. Police officials are subject to the same misquotations. You were told about a story that appeared in a Washington newspaper, wherein it was related that a man was arrested on the streets of Washington and had in his possession a hypodermic needle and that he was liable to a term of 20 years in the penitentiary.* Now this item was either a misquote or a mistaken conclusion on the part of the writer and is entirely false. As a matter of fact, we cannot arrest for mere possession of a hypodermic or other paraphernalia used by the addict. If we raid a pad, armed with a warrant, and we find addicts in there administering narcotics to themselves, we can then charge them with possession of implements of crime. The maximum sentence they can get is 1 year, not 20 years.

*[Footnote added by Dr. Kolb.] The newspaper article stated that the man was arrested in Prince Georges County, Md., and that the "conviction carried a 5- to 20-year penalty under Maryland law."

You were also told a pathetic story of a double amputee who was going to a local doctor for treatment. You were told how the police were peering over the shoulder of a busy and dedicated doctor and also told that we as medical laymen had the audacity to tell him what dosage he should prescribe. You were not told that prior to this investigation, we had discussed this with several reputable physicians and had been advised that the maximum analgesic dosage of morphine was 8 to 12 grains per day. You were not told that our investigations disclosed that this doctor was writing prescriptions for this double amputee for 50 half-grain morphine tablets every day; that he also wrote a prescription for 500 grain tablets on one occasion, and on another occasion for 750. You were not told—and probably the speaker himself does not know—that this pathetic amputee was peddling his excess supply of morphine to other addicts at the rate of $2 for one-half grain and $4 for one grain. No reduction in price for quantity sales. This doctor was not arrested. We forwarded a report to the Medical Board of the District of Columbia and he was warned. As a matter of fact we know today that he is still prescribing for clients, both barbiturates and narcotics, and advising them to have the prescriptions filled in Virginia because the police in the District of Columbia are too tight.

I submit that we acted sanely and reasonably and that this doctor and other doctors like him should have somebody breathing down their necks.

Harney: There is a great solidarity among policemen, the same solidarity that you find among doctors. As an old man, my interest in these wonderful young people here compels me to say that they should take with a considerable amount of skepticism the all-inclusive documentation or allegations that have been made here about the innocence of heroin or other narcotic drugs and the fact that such narcotics are not found generally speaking with serious crime. That is a good generalization. Do not become the victim of the exception to the rule. Mr. Bennett, I know, didn't have in mind one of the most important prisoners that he ever had in his institutions, J. W. of St. Paul. I investigated the murder of District Supervisor Ancker Bangs. Forty minutes after J. W. had smoked the second of two morning pipes of opium which took the monkey off his back—he was addicted—he, by a clever strategem, tricked this experienced officer of 25 years' service into a position where the officer was shot to death. Now there are many, many of those risks involved. I can remind Mr. Bennett of fellows like B. C., the great west coast bank robber, Big B. H., and so on, who were "on stuff." Just a word of warning for the safety of the gentlemen sitting here.

CONCLUDING COMMENTS

Robert B. Livingston
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This symposium provides a brief vignette of existing knowledge about narcotic drug addiction problems. Limited as it is, it constitutes the most authoritative definition to date of these problems and of the opportunities we can pursue in order better to cope with them. It reflects the relatively shallow depth and narrow extent of present insights into any single aspect of these problems. This is not a slur on the present contributors. I am confident that each of our speakers would be quick to agree to making a final emphasis on how little we do know.

We need urgently to know more about individuals who become addicted, their real nature prior to addiction, the natural history of their experience of becoming addicted, their efforts and the efforts of others to relieve them of their addiction, their experiences and the internal and external forces involved in their perhaps becoming readdicted. We need to know what finally happens to addicts: they seem to disappear. We need urgently to know more about the internal mechanisms of addiction from the psychological, biochemical, neuroendocrine, neurophysiological and general medical points of view.

It needs to be emphasized that the brain is the instrument governing social as well as individual physiological integration. We need to know particularly about the limits and opportunities of an addicted person's behavior, his internal value system of appetites, rewards and punishments relating to narcotic drug abuse, the predisposing factors, the relationship of addiction to his past experiences and future prospects, the internal and external lures and deterrents as seen from his point of view. Undoubtedly there are several distinguishable types of addicts for whom different treatments and expectations would be appropriate.

We need urgently to know more—much more—about the external factors: his family, school, neighborhood and the larger society meaningful to him, the social mores with which he identifies, the role from his point of view and in terms of shaping his behavior of the various professionals to whom he is exposed—the narcotic agents, police, judges, jailkeepers, physicians, social workers, and parole officers. We need to know more about the natural history of drug exposure in relation to susceptibility and lack of

susceptibility to drug acceptance, the number and nature of those who are equivalently exposed but who do not try the drugs, who try them but not to the point of becoming physically dependent, and who successfully break the drug habit by themselves. We need to know what it takes to cope successfully against strong odds favoring addiction, just as we need to know the processes of failure: perhaps information on successful coping behavior would provide our most useful guide.

It may be protested that such studies will take much money. Yet that would be only a small fraction of the continuing costs of present practices. As useful answers emerge, research costs are amply repaid in both dollars and anguish saved. It may be protested that such studies will take considerable time. Yet the results we seek will not be achieved along any path less arduous than that for acquiring thorough understanding. It may be protested that we cannot immediately provide the manpower for such studies. Yet we have not really set about that attempt, except to the small extent set forth in these papers. It may be protested that so great an effort is unjustified for the solution of narcotic drug addiction problems. This might be true, and needs, of course, to be carefully weighed. Yet there will be many results from these studies that will find important application elsewhere, particularly in respect to juvenile delinquency and alcoholism, both of which constitute numerically far larger social problems.

More important, such studies are bound to dispose of many long-standing mysteries and myths concerning human nature. Information gained about human nature, human limitations and opportunities, will help us not only address our problems more understandably and effectively, but it will help us (by exponential power) to accelerate man's heretofore essentially blind struggle to maximize individual potentialities and freedom. The more basic the research, the more general is its potential application.

Narcotic drug addiction problems, in other words, are not amenable solely to education and suasion based on what is now known. There may be a shortcut, but none is evident. Social guidance according to tradition and "vague sentiment" is bound to prolong our present miseries. Dependence solely upon deterrence is bound to fail. Deterrence depends upon a credible message authentically communicated to the group to be deterred. Deterrence requires on the part of the group to be deterred a degree and form of rationality that is appreciable and anticipatable by those effecting the deterrent. Such correspondence of rationalities is not easily secured. At best, deterrence provides an unsteady and fractious relationship in which control over execution of the deterrent action comes to lie in the possession of those against whom the deterrent is directed. Some of the judges at this meeting have spoken of the applicability of this principle to many narcotic drug violation cases. Deterrence, with its entirely negative polarization, has not been found to be a predictable or reliable influence for shaping another's behavior. There must always exist less disagreeable alternatives and, indeed, some positive hope available for those who are to be deterred.

I should like to emphasize one area which has been the focus of the strongest opinions ventured at this meeting. This is the subject of the non-addicted pusher or peddler of addicting drugs. No one here has spoken in favor of him, or in favor of free-enterprise in the illegitimate growing, distributing or marketing of narcotic drugs. All of us are emphatically unanimous on this point. Any inference to the contrary reflects badly misdirected assumptions.

It was not our purpose to find, nor have we stumbled upon, a set of agreements as to solutions which we might immediately apply toward the elimination of narcotic drug addiction problems. These problems are historically recent and are still changing in their emergent form. They are inadequately understood and patently resistant to easy solution. Problems that resist solution may be insoluble; yet, if you will believe the history of science, it is most likely that the means of solution being attempted are inadequate. In the absence of fresh insight, sheer devotion is powerless to do more than provide momentum for our shortcomings and our ignorance. We must seek out that which can lead to a more fundamental level of understanding. Perhaps the entire framework in which these problems are traditionally presented needs to be reformulated. We must remember that concepts can be tested against experience but there is no direct path from experience to the setting up of new concepts; this requires a creative step in a direction away from our precommitted perceptions, values and actions.

Contrary to the limitations we so often declare for human nature, man is a highly adaptive being; social customs are capable of shaping almost any outlook and behavior. By far the most important influence yielding constructive social adaptation is the consciously sustained desire for such adaptation. We can expect proponents of traditional forms of thinking to reject and perhaps actively to oppose research and discussion dedicated to the establishment of improved methods for solving narcotic drug addiction problems. Such pursuits may be thought of as "visionary," "idealistic," and "unrealistic." Yet, if any lesson can be clearly drawn from history it is this: that many ideas labeled as visionary, idealistic and unrealistic have now become the only tenable, practical and realistic ones. Ideas, not things, rule mankind.

For centuries, religious and racial tolerance were considered by all "right-minded" people to be contrary to any reasonable conception of morality. Epileptics and the insane were beaten and brutally incarcerated. The object of such treatment was to punish and to drive out evil spirits. All "right-thinking people" were convinced that this procedure was in the best interests of both victims and society. The use of lightning rods was vehemently denounced throughout this country as "an impious attempt to defeat the will of God" and as a means for "helping criminals to escape." Vaccination and anesthesia were held abhorrent on moral grounds, as contrary to nature.

Mankind can look back with justifiable pride on a number of now widely accepted revolutions in attitude and behavior which grew out of an enlarged respect for human needs, viewed increasingly objectively. Science

will continue to disabuse us of our "common sense" view of the world and ourselves. We stand in need of continuing improvement of insight. We are still immensely, almost totally, ignorant concerning such things as perception, appetite, internal values and ensuant behavior. As in the past, attempting to understand ourselves will improve our social procedures and at the same time contribute to the evolution of human nature. Social awareness of the need to understand human variants, limits and potentialities stands as an impressive advantage of our moment in history. Conceptual and technical opportunities now available and more that are rapidly emerging among the frontiers of science reinforce our confidence that devotion to the advancement of concepts in all fields relating to narcotic drug addiction will pay unimaginable dividends, tangible and intangible. Man's capacity to guide and to accelerate his own development through growth of insight stands as the most impressive and powerful resource in his possession.

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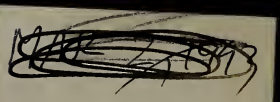

8-16-11